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for the drilling-producing-pipe line industry

PETROLEUM REFINER and The REFINERY CATALOG
for the refining-natural gasoline industry

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The OIL WEEKLY

ENGINEERING NEWS STATISTICS

R. L. DUDLEY, President, Publisher A. L. BURNS, General Manager

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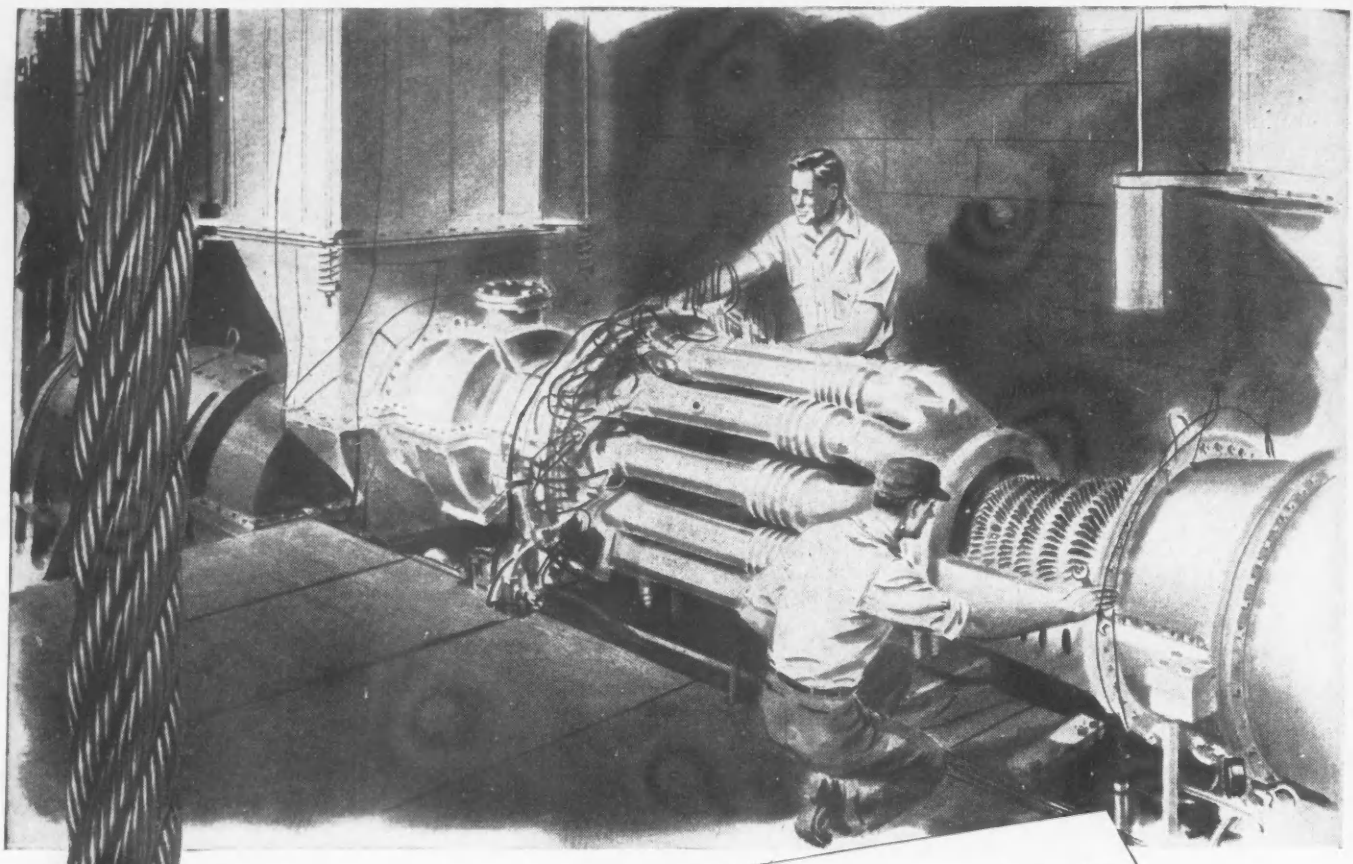

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THE CHANGING Panorama

Demand Now Showing Less Gain Over 1946

PETROLEUM demand in 1947 as a whole probably will not be as great as indicated by the surprisingly high levels reached during short periods in the early part of the year. Total requirements likely will not be greatly above the original estimates made at the beginning of the year.

This new and different view, tending to dispel some of the fears of difficulty in fulfilling sharply higher demand for petroleum products, is held by Dr. Courtney Brown, petroleum economics division head of Standard Oil Company (New Jersey).

He estimated that total demand, including civilian, military, and export, in 1947 would be 5.5 percent above 1946; that crude production would average 4.9 to 5 million barrels daily; and runs to stills 5 to 5.1 million daily. (This publication in Yearbook number, Feb. 10, 1947, page 74, forecast 4,901,000 barrels daily crude production required and 4,915,000 daily run to stills.)

Based on Bureau of Mines and API statistics, Dr. Brown showed that demand in 1947 was higher than in 1946 by 8.6 percent in January, 9.3 percent in February, 15.3 percent in March, but only 6.2 percent in April, and an estimated maximum of 2.5 percent in May.

While special effort is required to meet the high postwar demand, it is being met and should continue to be met, said Dr. Brown, although some individual companies may experience supply difficulties and some localities may be inconvenienced, particularly in the Middle West. The industry is endeavoring to satisfy all demand, various companies incurring abnormal expenses in order to make enough oils available. These uneconomic costs that the companies are assuming in the determination to take care of all customers include long tank car hauls of crude oil and products that normally would be moved by pipe line; over-working of refining facilities; and the taking of above-normal yields of light and heavy fuel oils at refineries, at the sacrifice of normal recovery of the more profitable product, gasoline.

Plenty Steel Within Year If No Strikes

PRESENT steel shortages are proving disastrous not only to the oil industry but to all business and will cause many small firms to fold up.

This sums up the opinion of Col. Willard F. Rockwell, Pittsburgh industrialist, who in a recent appearance before the U. S. Senate Small Business group said that within a year steel will be plentiful if there are no disrupting strikes.

Rockwell listed three reasons for the steel shortage.

1) "Strikes, including those in steel, coal, the electrical industry which prevented delivery of electrical equipment required in installation and operation of cold rolling mill equipment, and 'innumerable' others;

2) "A terrific waste brought about by the ill-considered and unjustified demands of the military procurement forces during the war, and

3) "The peacetime exporting of steel which, in some cases, may be necessary to aid the recovery of our allies and former enemies, but in other cases is not only detrimental to American interests but is detrimental to world interests."

☆

Business can blame nothing and nobody but itself for the erroneous impression of its nature and behavior which prevails among the general public. As long as somebody else is going to be permitted to do all the talking about business—and that commentator is most often not friendly toward business—business will have a bad name. It will make money—people must buy to live—but it will not make friends. And the day of need for a friend is inevitable.—Oil, Paint and Drug Reporter.

The Military and Its Search for Oil

IF THE Army and Navy are having as much trouble filling their petroleum requirements "as described in some reports," additional supplies can easily be obtained by opening up the Elk Hills Naval Reserve, in the opinion of H. D. Collier, chairman of Standard Oil Company of California. "Wells there are already drilled and all that is necessary to obtain needed output is to open the valves," Collier said.

In Washington, however, a spokesman for the Office of Petroleum Reserves said that the Navy's policy is to hold the field in reserve for a real emergency. As long as California can import oil, Elk Hills production will be kept to its present minimum of 15,000 barrels daily, it was declared. The proposed Texas-California oil pipe line was referred to as a project "of much strategic value" to insure against West Coast shortages and from the military point of view.

"The military services can greatly help meet their own requirements and those of the Pacific Coast generally by bringing about a conference between military agencies and individual companies which could examine and use the total stocks the industry has on hand," Collier said. The Department of Justice would have to approve such industry-wide coordination.

With reference to a deep test to be drilled on Teapot Dome by the Navy Department, information is that while the Navy still feels the area is played out, a possible discovery after it turns over the reserve to the Interior Department might cause criticism. The test probably will not be started until 1950 when exploratory work in California and Alaska is completed. Washington feels that one hole will tell the story.

The Navy is starting two wells this year in Alaska and expects to make locations for two additional wells in 1948.

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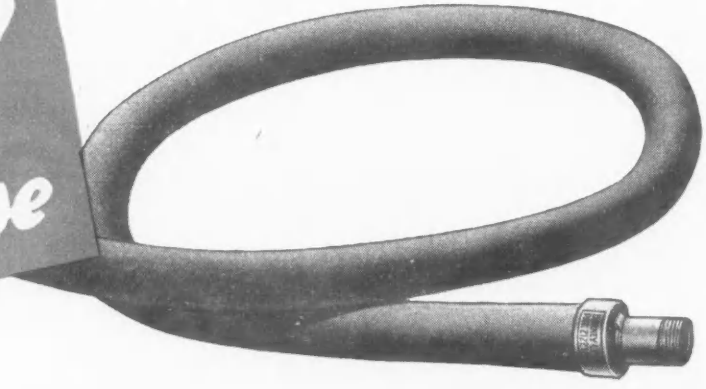

THE WEEK'S NEWS

Oil Pact Changes Are Offered

Prospects for ratification of the Anglo-American petroleum agreement at this session of Congress faded out last week as the Senate Foreign Relations Committee deferred further hearings until late this month to give opponents an opportunity to consider it in the light of reservations written by the API, the committee itself and others.

At the final session a week ago, Committee Chairman Vandenberg suggested two reservations additional to those sponsored by the API, which both Ralph K. Davies, as special consultant to the Secretary of the Interior, and Russell B. Brown, general counsel of the Independent Petroleum Association of America, agreed would go far toward clarifying the situation.

Vandenberg suggested an addition to Article VII, section (b), which provides that nothing in the agreement "shall be construed as impairing or modifying any law or regulation, or the right to enact any law or regulation, relating to the importation of petroleum into the country of either government," the words *"or implying any commitment of any kind not so to act as either government, in its discretion, may see fit for the purpose of giving adequate protection to its domestic industry,"* and then to amend Article II, section (c), providing that the signatory governments shall so "direct their efforts" that exploration and development of resources, construction and operation of refineries and distribution shall not be hampered by restrictions inconsistent with the agreement, so as to make that section, the main issue in controversy, read as follows (new matter italicized):

"That the exploration for and development of petroleum resources, the construction and operation of refineries and other facilities, and the distribution of petroleum, shall not be hampered by restrictions inconsistent with the *provisions of Article I and Article II (a) and (b).*"

The reservations were suggested as Davies, seeking to correct "misconstruction" of his original testimony as making the agreement a vehicle for eventual free trade in oil, explained that he had been talking about free and equal competitive opportunity and had not had in mind import tariffs, quotas or other steps designed to protect the domestic industry.

Senator Tom Connally expressed himself as still dissatisfied with Article II (c) because the purposes set forth in the agreement are "sweeping and uncertain."

Davies made plain that no supplemental agreements or understandings exist between the negotiations for the two governments.

The War and Navy Departments consider that American oil interests in foreign areas are essential to our national defense in the event of an emergency and "it is believed that the principle of economic advancement of producing countries which is contained in the agreement is fundamentally tied in with availability of foreign oil to the U. S. in an emergency and is, therefore, in the military interest," Colonel G. H. Vogel, executive officer of the Army-Navy Petroleum Board, testified.

News Summary

HEARINGS on the **Anglo-American petroleum agreement** have been recessed to give opponents an opportunity to study various suggested reservations and come in later for final presentation of their views. See this page.

With an eye to next month's adjournment, Congressional committees have given the green light to legislation extending the Interstate Compact Commission and the Interior Department's **synthetic fuels demonstration program.** Page 82.

July 10 is the next meeting date for the **National Petroleum Council.** Shortages comprise the biggest subject before the group. See this page.

The Bureau of Mines has upped its 1947 demand estimate; last week's **daily average production** was 5,085,425 barrels, another new record. Page 28. Also see page 72.

World's deepest oil well, Caddo County, Oklahoma, (Superior Oil Company of California's Weller 51-11) passed 17,806 feet on June 12.

A 10-inch **pipe line** will be built in 1948 **from Rangely,** (Colo.) field **to Salt Lake City,** Utah. Page 28.

The Senate Appropriations Committee has recommended **part restoration of OGD cuts** administered by the House. See this page.

Secretary Krug has called a high-level conference of government officials to consider possibility of **petroleum shortages next winter.** This page.

Twenty-six percent of the **steel pipe and tubing** produced in 1946 went to the oil and natural gas industries, according to a study by the American Iron and Steel Institute.

OGD Funds Restored

Industry efforts for restoration of funds denied by the House for OGD operation after June 30 met with part success Friday when the Senate Appropriations Committee recommended that to the $124,000 provided in the House-approved Interior Department appropriation bill, earmarked for Connally Act enforcement, there be added $200,730 for the work for which the agency was set up last year to coordinate the oil and gas activities of the government with the cooperation of the industry through NPC.

The Senate committee also took the edge off of House cuts for the Geological Survey, for which it recommended $10,256,300 against the House provision of $9,113,230 and the Bureau of Mines, for which it provided $11,976,850 against $10,983,875 set by the House.

NPC Meeting Set For July 10

Confident that the Senate will provide funds for operation of the Oil and Gas Division after June 30 and that the House will recede from its original action denying money for the division, National Petroleum Council Chairman Walter S. Hallanan has called members to meet at the Interior Department July 10.

The session will be devoted almost exclusively to the problems of shortages. (See materials report, page 30.)

Because of the urgency of the situation, it is expected the council will meet even in the unlikely event the Senate does not provide funds for the OGD.

Interior, War, Navy and Treasury departments are hopeful that the NPC meeting will develop concrete suggestions for meeting difficulties the government agencies have encountered in contracting for their oil needs.

U. S. Aid to the Industry For Conference Discussion

Consideration at highest government level will be given June 17 to the possibility of widespread shortages of petroleum next winter. Virtually all members of the President's cabinet have been invited in addition to heads of various government agencies. Interior Secretary Krug called the meeting which has been approved by President Truman.

"A number of factors including shortage of steel pipe and casing together with a decreasing supply of production tools make it evident that unless the government acts affirmatively and promptly, there will be widespread distress and hardship during the winter," Senator Murray of Montana declared in commending the meeting plan.

Rocky Mountain API Talks

Speakers at the June 25 meeting of the reactivated Rocky Mountain District, API Division of Production, Mammoth Hotel, Yellowstone National Park, include J. F. Cullen, Stanolind Oil and Gas Company, Casper, Wyo., on "Unit Operations"; Nat A. Slagter, of the Lance Creek, Wyo., Unit, on "Secondary Recovery in the Rocky Mountain Region" and another speaker on drilling practices in that area. Jake L. Hamon, chairman of the API Division of Production, will attend and speak.

Gas for Carbon Black

A bill to allow the use of Texas' sweet natural gas in the manufacture of carbon black was signed into law last week. The Railroad Commission would hold hearings to determine the average market price in a given field, this because sweet gas can be used for carbon black only when it is purchased at the average "fuel" price for sweet gas in the same field.

Kansas-Missouri Line Is Approved by FPC

FPC has approved Cities Service Gas Company's application to construct 404 miles of 26-inch line from Grant County to Johnson County, Kans., thence to Jackson County, Mo.; replacement of a 16-inch line between Labette and Cherokee counties, Kans., with 20-inch pipe; a dehydration plant in Grant County and additional compressor facilities at an estimated cost of $23,698,050.

Texas Mid-Continent

The 28th annual convention of the Texas Mid-Continent Oil and Gas Association will be held in San Antonio, October 16-17. Fred W. Shield, president, announced convention headquarters will be at the Gunter Hotel.

Bureau Ups Estimate

The Bureau of Mines last week revised its estimate of total demand for all oils in 1947 by upping the previous figure 1.4 percent to 2092.4 million barrels. The limiting factor is refinery capacity, it commented. Last year's actual demand for all oils was 1942.2 million barrels.

Crude Oil Production in the United States

(Estimates compiled by THE OIL WEEKLY. All figures indicate daily averages in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED June 14	June 7
Alabama	1,200	1,150
Arkansas	74,600	74,500
California	917,400	918,200
Colorado	40,000	40,000
Florida	1,050	660
Illinois	190,400	188,000
Indiana	17,000	17,850
Kansas	280,500	264,900
Kentucky	25,500	25,650
Louisiana	418,400	418,900
North Louisiana	97,000	97,500
South Louisiana	321,400	321,400
Michigan	40,000	39,000
Mississippi	95,500	95,200
Missouri	100	100
Montana	20,000	22,600
Nebraska	600	600
New Mexico	106,450	106,450
New York	13,200	13,400
Ohio	8,500	9,500
Oklahoma	388,150	389,200
Pennsylvania	34,800	35,400
Tennessee	25	25
Texas	2,288,950	2,288,950
Tex. R.R. Comm. Districts:		
Dist. 1—South Central	21,650	21,650
Dist. 2—Middle Gulf Coast	166,550	166,550
Dist. 3—Upper Gulf Coast	494,475	494,475
Dist. 4—Lower Gulf-S.W.	247,725	247,725
Dist. 5—East Central	39,950	39,950
Dist. 6—East Texas Field	334,000	334,000
Dist. 6—Rest of Northeast	116,100	116,100
Dist. 7-B—North Central	39,500	39,500
Dist. 7-C—West Central	39,000	39,000
Dist. 8—West	560,750	560,750
Dist. 9—North	141,500	141,500
Dist. 10—Panhandle	87,750	87,750
Virginia	200	200
West Virginia	7,400	7,800
Wyoming	115,500	116,250
Total United States	5,085,425	5,074,485

Total stocks, foreign and domestic June 7, as reported by the Bureau of Mines were 231,849,000 barrels.

Sample Elected Head of Houston Geological Group

The Houston Geological Society has Monday, June 9, elected Charles H. Sample of J. M. Huber Corporation, president; A. F. Childers, Jr., Gulf Oil Corporation, vice president; Hershal C. Ferguson, independent geologist, secretary; and E. L. Earl, Crown Central Petroleum Company, treasurer. Elected to the advisory committee were L. B. Herring, Second National Bank; L. L. Nettleton, Gravity Meter Exploration Company; and Don Gahagan, Skelly Oil Company.

Charles H. Sample

Sample holds degrees from the University of Texas and Columbia University. He was employed by the Houston Oil Company of Texas as geologist and paleontologist from 1932 to 1943, when he became district geologist of the Gulf Coast District for Huber.

IPAA Steel Probe

J. Ed Warren of Midland, Texas, heads the committee named by the IPAA to investigate the steel shortage as it affects the oil industry. Other members are Frank Bernsen and W. G. Warnock, Tulsa; J. W. Frazier, Houston; R. J. Lawton, Magnolia, Ark.; George P. Livermore, Lubbock, Texas; A. E. Herrman, Amarillo, Texas; Charles Aston, Artesia, N. M.; F. G. Stodder, Wichita, Kan.; Bryan W. Payne, Tyler, Texas; F. E. Harper, Oklahoma City; O. G. Leichliter and James S. Loftin, Dallas; J. W. Hancock, Huntington Beach, Calif.; Russell Patterson, Wewoka, Okla.; and J. P. Coleman, Wichita Falls, Texas.

Tank Car Movement

Inadequate supply of tank cars for moving West Texas and Southeastern New Mexico crudes to distant refineries and pipe line terminals has prevented shippers from attaining projected schedules. The Permian Basin accounted for a daily average rail movement of 50,750 barrels during the week ending June 1, while during the same period trunk line outlets averaged 614,300 barrels daily. The latter, an all-time record, will be materially surpassed as new lines and loops become available.

Tank car movement of crude will take a sharp rise on the next weekly report.

Texas Line Authorized

The Texas Railroad Commission has authorized Superior Oil Company to construct a gathering system in the Altair field, Colorado County, and to transport this production 69 miles to the Lake Creek absorption plant. Altair has been approximately 90 percent unitized and has 12 producing wells.

Rangely-Salt Lake Line

A $5 million, 181-mile, 10-inch pipe line, from Rangely field, Colo., to Salt Lake City, Utah, with a capacity of 25,000 barrels of crude daily, is planned by Standard Oil Company of California. A subsidiary, Salt Lake Pipe Line Company, has been organized to build and operate the line. The route will parallel the Uintah Mountains. Construction is scheduled to start in the spring of 1948.

Wyoming Lines

The state of Wyoming has issued permit to The Ohio Oil Company for construction of a 6½-mile, 10-inch line from Worland field, Washakie County, to Chatham, and for a 13½-mile, 8-inch line from Hidden Dome field to the Durkee siding on the Burlington Railroad, the lines to be laid immediately.

West Texas Line

Scurlock Oil Company, Houston, is planning a 6-inch, 26-mile crude oil line from the Jameson pool, Coke County, West Texas, to the vicinity of Colorado City. Contract has not been awarded with construction to begin prior to July 15. Scurlock will purchase the oil.

THE OIL MAN'S CALENDAR

JUNE 16–19	ASME Semi-Annual Meeting, Chicago, Stevens Hotel.
25	Rocky Mountain District API Division of Production, Yellowstone National Park, Mammoth Hotel.
26–27	Quarterly Executive Conference, Rocky Mountain Oil and Gas Association Directors, Yellowstone National Park, Mammoth Hotel.
26–27	Kentucky Oil & Gas Association Annual Meeting, French Lick, Ind., French Lick Hotel.
AUG. 11–12	Interstate Oil Compact Commission, Great Falls, Mont., Rainbow Hotel.
25–27	Annual Appalachian Gas Measurement Short Course, West Virginia University School of Mines, Morgantown.
SEPT. 17–19	National Petroleum Association Annual Meeting, Atlantic City, Traymore Hotel.
23–24	Fall Meeting, Petroleum Division, AIME, Los Angeles, Elks Club.
29–30	Annual Meeting Independent Petroleum Association of America, Oklahoma City.
28 to Oct. 2	Regional Meeting, AIME (includes 2-day Petroleum Division Session), Denver.
29 to OCT. 3	American Gas Association, Annual Convention, San Francisco.
OCT. 6– 8	ASME Petroleum Mechanical Engineering Conference, Houston.
8–10	Fall Meeting, Petroleum Division, AIME, Tulsa, Mayo Hotel.
13–15	Annual Meeting, American Association of Oil Well Drilling Contractors, Long Beach, Calif.
NOV. 10–13	American Petroleum Institute Annual Meeting, Chicago, Stevens Hotel.

Nomads Chapter monthly meetings: LOS ANGELES, second Wednesday, Jonathan Club. HOUSTON, second Monday, Ye Olde College Inn. NEW YORK, first Monday, Louis Sherry's. TULSA, third Wednesday, Hotel Tulsa. DALLAS, date not yet fixed.

Gulbenkian Continues to Hold Up Middle East Deal

Settlement of the famous "Red Line Agreement," controversy was without further clarification last week, indications being that the whole problem now revolves around C. S. Gulbenkian, wealthy Armenian.

The fifth partner in Iraq Petroleum Company took exception to the stand announced by Standard Oil Company (New Jersey) and Socony-Vacuum Oil Company in declaring that the recent war had voided the Red Line pact, but he offered no objectives in the matter except that "no proposals have been put forward which are fair to me." French and other interests apparently have been able to agree in their negotiations.

Gulbenkian, holding 5 percent of the Iraq Petroleum Company stock, has confined his statements to denouncement of the actions of certain other partners and has said that he has tried to find a common ground with the others for the future of the company.

Camp Reported Established For Wildcat Tests in Syria

The Syrian Petroleum Company has established a base camp at Minnakh, north of Aleppo, Syria, and is preparing to drill exploratory tests at three locations, according to the Department of Commerce.

The locations are Kurt Kulak, the second slightly north of Aazaz, and the third just south of Afreen. Actual drilling is believed already under way at Kurt Kulak.

Russia Claims Gain

Russian reports reaching Washington say that oil output for the first quarter of 1947 was 15 percent in excess of the same period last year, while gasoline production rose by more than 50 percent. The reports, however, give no figures on which the comparison was based.

Sinclair in Ethiopia

Sinclair Oil Corporation's geological work on the ground in Ethiopia is scheduled to start early this summer. Previous investigations have been in the nature of examination of aerial photographs. It is now understood that much geological equipment and part of the personnel has arrived in Ethiopia. The first phase of exploration likely will be entirely through surface geology. The supply problem is increased since Ethiopia has no seaport.

Shell in Canada

Shell Oil Company's Canadian subsidiary, Shell Exploration New Brunswick, Ltd., has acquired from New Brunswick Oilfields, Ltd., interest in 3 million acres in New Brunswick and already has geological parties in the field for preliminary surveys. Shell is required to begin oil and gas exploration this year.

New Brunswick Oilfields is a successor to New Brunswick Gas and Oilfields, Ltd., a Scottish Company, which has rights under lease to all natural gas and oil in about 10,000 square miles. Stony Creek field, 10 miles south of Moncton, has the only production. It produced 28,584 barrels of oil last year. Gas reserves are estimated at 4 billion cubic feet and oil reserves at 150,000 barrels.

Polish Oil Production

Crude oil production in Poland in February amounted to about 66,000 barrels while natural gas output totaled an estimated 56 million cubic feet. Including imports from the USSR and Hungary, refineries processed approximately 127,000 barrels of crude oil during the month.

Sinclair About Ready To Start Panama Test

The first drilling operation since Sinclair Oil Corporation acquired exploration agreements with Panama is expected to get under way within the next 60 days. The new test is slated in the Bocas del Toro area where Sinclair Panama Oil Corporation drilled two tests in 1922 and 1923, both being shallow wells and inconclusive. The current operation, carried on jointly with Cities Service Oil Corporation but operated by Sinclair Panama, is to use a heavy modern U. S. rig estimated to be 80 percent on the ground now.

Original drilling was on the basis of general surface geology, but in later years seismograph geophysical work was carried on near this well. Meanwhile the company is carrying out an intensive geological program in Panama, with at least six crews reported working.

In addition to the two wells drilled years ago at Bocas del Toro, on the Caribbean coast in extreme western Panama, the company drilled three tests in the eastern part of the country, none of which went much below 3500 feet. The new well has no reported contract depth, but probably will go to the basement or as near it as possible.

Petroleum Not Specified in Roumanian Nationalization

Confirmation has been received of passage by the Roumanian Parliament of a bill which in effect nationalizes Roumania's industry for the next five years. Efforts to obtain a clarification of intent of the bill in regard to the oil industry have not yet been successful.

The bill which went into effect immediately, is part of a Five-Year plan whereby every phase of industry, from procurement of raw materials to disposal of finished product comes under government control.

Reports reaching the United States prior to the passage of the bill had left the impression that the foreign oil interests with investments within the country would not be subject to the entire intent of the law, but there has been some apprehension expressed here that the petroleum interests will also be subjected to regimentation under the plan.

Offer Said Received for Hungarian Oil Property

Offers reportedly have been made by the Communists to buy out interests owned by the Hungarian subsidiary of Standard Oil Company (New Jersey) for $5 million, which offer was refused.

Thus far there has been no confirmation received in the United States headquarters of the parent company. The report had hinted that American representatives of the company had been threatened with expulsion from Hungary, and that it was only a matter of time until the new regime took some action regarding Maort.

The properties have been the source of differences between company engineers and the Russian occupying forces, the latter requiring fields to be produced at rates believed by American engineers to be wasteful and inefficient. Since being placed directly under control of government agencies, the operators have had some freedom of action as to producing methods and rates, but very little as to ultimate destination of the oil. Before being legally brought into the nationalization program, actual ownership would have to be acquired, either through purchase or expropriation.

Names of Far Eastern Companies Are Changed

Standard Vacuum Oil Company has announced approval by stockholders of changes in the names of its three operating affiliates in the East Indies, but changes will not become effective until governmental approval has been obtained.

The new name for the principal producing and refining subsidiary heretofore operated as "N. V. Nederlandsche Koloniale Petroleum Maatschappij" will become "N. V. Standard-Vacuum Petroleum Maatschappij." This company has producing properties in the Indies and has a large refinery near Palembang in Sumatra.

"N. V. Standard-Vacuum Tankvaart Maatschappij" will be the new name of "N. V. Nederlandsche Koloniale Tankvaart Maatschappij," the branch operating a fleet of small tankers for the transportation of products from the refinery to the Indies and to Singapore, Malaya, Indo-China and Siam.

"N. V. Standard-Vacuum Sales Company" will replace "N. V. Koloniale Petroleum Verkoop Maatschappij" as the name of the marketing company incorporated at Batavia, Java.

Deep Production Sought in The Netherlands Field

The Batavian Petroleum Company, subsidiary of the Royal Dutch Shell, has announced plans for a 6500-foot wildcat test west of the Schoonebeek (Coevorden) field in Drenthe Province, the Netherlands.

The Schoonebeek field is currently producing from the Lower Cretaceous at a maximum depth of 2650 feet.

Material Shortages

National Petroleum Council group surveys oil situation and lists its recommendations

THE Materials Committee of the National Petroleum Council last week made its third report on the shortages of materials for petroleum operations.

Submitted by Claude P. Parsons, Houston, chairman of the materials group, it was, because of the urgent information it contained, released for publication by NPC Chairman Walter S. Hallanan even before the council itself had time to consider it.

Except for the introductory sentences, the report follows in full:

Due to the suspension of price controls and to fewer strikes during the first quarter of 1947, the supply of materials for drilling operations improved to a point where a new record was established over the first quarter of any previous year for wells completed and footage drilled.

Although the supply of materials increased considerably during the first quarter, an unexpected and greatly increased demand for petroleum products by the public is causing an unprecedented and increasing demand for materials for all types of public operations.

The impact of this unexpected and unprecedented demand upon the supply of materials provides the main basis for consideration of the committee at this time.

Lack Working Inventory

In the January 11, 1947, report the committee expressed a belief that there was adequate manufacturing capacity (subject to rehabilitation of facilities badly worn during the war) to supply the demand of the petroleum industry, provided there were no interferences by strikes, stoppages or slowdowns. It did not take into account any record-breaking demand in 1947, because none of the regular forecasts indicated such a demand. The feeling was based on these facts:

Manufacturing capacity had been adequate to produce all the materials needed for drilling operations in 1941, a record-breaking year of 33,332 wells completed, as compared with 30,852 in 1946.

Manufacturing capacity was adequate to produce all the materials needed for the additional refineries, pipe lines and operating supplies constructed during the war.

The fact that a new record was made in the number of wells completed and in footage drilled in the first quarter of 1947, over the first quarter of any previous year (see figures below), together with the fact that the record was made without benefit of an adequate working inventory, shows that manufacturing capacity of materials used in drilling operations was adequate as of January 11 and that the production and supply was greater than ever before.

That does not mean that petroleum operators did not encounter great difficulty in obtaining the needed materials during the first quarter. They were seriously handicapped by a lack of proper working inventory caused by heavy withdrawals during the coal, steel and other strikes in 1946. Lack of adequate working inventory caused confusion in ordering and in distribution.

With regard to the increased demand, this committee is not a source of statistics or forecasts regarding petroleum operations, but referring to statistics from the regular sources the picture is presented as having a bearing on the outlook for increased demand for materials as follows:

Last year's statistical forecasts of 1947 demand for petroleum products are falling short of actual demand. In the first quarter there was a new all-time record for U. S. demand for crude oil and natural gasoline for both domestic use and export, of 5,842,000 barrels daily; and increase of 11.2 percent over first quarter, 1946, 43.6 percent over first quarter of 1941, and 4.6 percent over the wartime peak in the first quarter of 1945. According to the Economics Committee of the Interstate Compact Commission, the forecast for the first quarter 1948 is in excess of 6 million barrels daily. In addition there is a considerable increase in public demand for natural gas.

That outlook means that the petroleum industry and all of the manufacturers and suppliers of materials face a tremendous job. It also means that in the interest of the American people, the government should recognize and take action on the recommendations in this report relating to conditions which affect the accomplishment of that job and which are under the control of the government.

The unprecedented demand of the American people for more petroleum products means more wells, more recycling plants, more pipe lines, more pump stations, more refineries, more tank cars and tank trucks and more products pipe lines. Unprecedented demand for natural gas means more pipe lines and more pump stations.

Although refinery operations were greatly expanded during the war, and rehabilitation has improved some of the older plants that were badly worn during the war, there are several materials (listed herein) that are still seriously short and are hampering operations; and it is expected that the increasing demand for petroleum products will soon over-tax the present total refining capacity and additional capacity will be necessary.

Distribution operations are handicapped mainly by a lack of railroad tank cars and highway tank trucks.

New conservation regulations for the production of oil in Texas increase the demand for compressors and other materials for re-cycling and repressuring.

The demand for large diameter line pipe and equipment for pump stations for natural gas is several times greater than in 1941.

Materials still far short of demand:

Casing and tubing (oil well, seamless)—Casing, although in greater supply from the mills in the first quarter than ever before, as indicated by the record number of wells and footage drilled, became considerably confused in its distribution. Present plants operated at near capacity during first quarter. Among their problems were: a shortage of fuel in January and February; car shortages; occasional steel shortages; difficulties in obtaining supplies for repairs and replacements of badly worn equipment. (See special section of this report on casing.)

Line pipe—Similar conditions exist in this item as in casing except that in the smaller sizes many other consuming industries are competing for the supply and in the large diameters there is an unprecedented demand for proposed pipe lines to meet the demand of the American people for natural gas. All sizes are on short supply but especially 1¼-inch to 4-inch and 16-inch to 32-inch. The mills are sold out in these sizes well into 1949 and 1950. It is aggravated by a shortage of steel plate, which prevents the mills from operating at capacity, and which especially affects mills which depend upon outside sources for plate. See remarks under "plate."

Compressors, pumps—New Texas conservation regulations (re-cycling) are

causing increased demand. Manufacturers are handicapped by a shortage of bronze casting due to a continued shortage of copper. Delivery promise on compressors is 12 months; on reciprocating pumps 6 months; on large centrifugal pumps 10 months; on large turbines 9-12 months.

Plate, structurals, castings, sheets—Fabricators of refinery equipment, pipe, tanks, etc., have manufacturing capacity but do not have sufficient steel. Additional sheet and strip mills are due to start rolling in the last half of 1947. The steel plate situation is still aggravated by labor incentives being on a tonnage basis, which discourages production of thin plate used for large diameter line pipe. Delivery on mill-ordered plate requiring no fabrication is 9 months; on fabricated structurals 12-15 months. On drums, fractionating towers, reactors and regenerators, 12-15 months; on exchangers 10-12 months.

Tin mill products—Shortages caused by the government shipping considerable tinplate to foreign governments (approximately 125,000 tons allocated for this purpose in first quarter and estimated at 500,000 for 1947); also caused by the government shipping finished containers abroad.

Electrical equipment — Manufacturers not recovered from strikes of 1946. Also, there is a continued shortage of copper. The present backlog of orders indicates that supply will not balance with demand until late in 1948 or nearly 1949.

Caustic soda, soda ash, phosphates—Still very tight, but should ease up considerably during last six months of 1947.

Pipe line felt—Still very short due to tremendous demand and the outlook is that it will continue to be short until well into 1948.

Tanktrucks (highway)—While these have been tight, the operators who projected their programs far enough in advance are not experiencing undue difficulty; the supply will continue to improve provided there are no further strikes. Considerable shortage was due to a strike which curtailed production of a large manufacturer for months.

Valves and fittings, (forged and malleable) — Shortage continues due to greatly increased demand and to a shortage of castings.

The committee was requested to show the probable quantity of shortages but that would mean either getting the unrealistic backlog of orders from manufacturers, or canvassing the many thousands of petroleum operators spread over many wide areas to list their shortages. There is no ready source of such reliable information and to get it would require much time and organization.

In view of the unprecedented demand for petroleum products, the domestic industry will face a difficult situation for some time to come and the world-wide demand for petroleum products is considerably in excess of existing world supply. This situation will not be brought into balance until American petroleum companies, operating in foreign areas, are able to rehabilitate existing plants which were damaged during the war and to construct necessary expansion. The satisfaction of these foreign needs will relieve the load on our own domestic industry which at present is heavily overburdened.

Under the existing system of export controls, the American operator is definitely handicapped in the procurement of his supplies and materials for his operations abroad. The relief last January, whereby most materials required by American operators were placed on an "ex quota" basis, was of short duration. During the recent transfer of authority from CPA to OIT this arrangement was lost. Many applications are cut from 50 to 90 percent and are often denied 100 percent. This results in many appeals and a pyramiding, from quarter to quarter, of quantities of materials absolutely required.

Another serious complaint is that quarterly applications are acted upon too late to be of much use in the quarter involved. The quarter is nearly over before the applications come back and at that time several months have been lost in the procurement of materials. The operators are fearful of placing their orders before the receive their returned license because of the fact that most of the items are drastically cut and consequently the efforts used in the anticipation of requirements are to a large extent nullified. The administration of these applications today is worse than at any time and besides involving as much paper work as ever, it results in costly delays.

Another complaint is that fact that many items in easy supply still remain on the "positive list." Frequently suppliers of these items find that their supply is in excess of the domestic demand but the petroleum industry is prevented from obtaining them until an export license is secured and even then, in some instances, a license cannot be obtained. The administration of export controls should be on a more realistic basis as to the up-to-date supply situation, it should be better administered, and not handicap our own economy as is being done now where the rehabilitation and expansion of foreign facilities of American petroleum operators are being unduly delayed.

The committee has reviewed, and now reaffirms, its original recommendation in the November report which was stricken out in the January report due to the relief obtained then but which has now proven to be only temporary. The recommendation relating to operations abroad is listed later herein.

OIL WELL CASING

The shortage of casing is causing considerable concern and discussion among oil operators. Due to a general lack of reliable information relative to supply and distribution (domestic and export), there has been confusion and misunderstanding. The committee has been asked to help clarify the situation:

The main questions which are going the rounds are as follows:

What is the cause of the current shortage of casing?

It is not due to decrease in the supply, which was greater in the first quarter of 1947 than ever before.

In support of the above, the following figures (THE OIL WEEKLY) are submitted:

Footage drilled—First quarter 1947 6.9 percent over first quarter 1946; 14.5 percent over first quarter 1945; and 15.7 percent over first quarter 1941.

Wells completed—First quarter 1947 7.2 percent over first quarter 1946; 20.1 percent over first quarter 1945; and 5.7 percent over first quarter 1941 (previous record year); March, 1947, 18 percent over March, 1946.

According to a summary made (by Warren Baker of THE OIL WEEKLY) at the request of the committee, in the first four months of 1947, 11,750 wells were completed in the U. S., of which 9409 (75.1 percent) were drilled by small operators. This is at the rate of 35,000 wells per year. As the early months of the year have always shown the lowest number of completions, due to seasonal conditions, the outlook is for more than 35,000 wells in 1947, if materials continue to be available.

Commendation Expressed

The record performance of wells completed and footage drilled in the first four months of 1947 could not have been accomplished unless the petroleum industry actually received and used more materials in that quarter than in any previous first quarter in any year, including the record year of 1941 and the war years. In the public interest, the casing manufacturers and the oil operators, despite considerable difficulties, deserve commendation. The casing shortage is due to an unexpected, record-breaking demand, greater than at any previous time in the history of the petroleum industry. This unprecedented demand for casing is caused by the record-breaking demand of the American people for petroleum products.

What is causing the present confusion and misunderstanding in distribution?

The primary cause is a serious lack of working inventory of casing, which be-

came practically depleted during the coal and steel strikes in 1946. Contributing causes are a lack of reliable information about the supply and export, and the entry of brokers into the picture.

To be carrying on an unexpected and record-breaking volume of drilling operations over tremendously widespread areas without an adequate and balanced working inventory means that the resulting lack of flexibility and efficiency causes over-ordering, duplication of orders, over-booking of mill capacity, and long delivery promises. Some large operators are forced to reduce drilling programs and many small operators are prevented from starting wells on short notice. In many of these short notice cases, however, drilling contractors with better buying arrangements than operators have been able to furnish casing.

Is manufacturing capacity adequate?

Provided the mills can operate without strikes, stoppages and slowdowns, and without shortages of steel and fuel, it is estimated that present capacity operating at 95 percent could support a drilling program approximately 15 percent higher than in the first four months of 1947. During that period production of casing was about 80 percent of capacity, and 11,750 domestic wells were completed and approximately 797 foreign (based on export of 6.35 percent of the total production of casing). That makes a total of 12,547 wells completed during the period or at the rate of 37,641 per year. A 15 percent increase would be at the rate of 43,287 wells per year, with present manufacturing facilities operating continuously at 95 percent.

Actual performance at that rate would also be contingent upon manufacturers being able to carry out a rehabilitation and replacement program with respect to facilities which were badly worn during the war. Rehabilitation and replacement plans already approved by manufacturers have been exceedingly difficult to carry out, due to strikes and shortages, and appropriations already made have been reduced in effectiveness by sharply rising costs.

Rehabilitation is a source of relatively short range improvement in supply but because of the difficulties involved, it is obvious that any considerable expansion of facilities would be a long range matter involving a lengthy and difficult period under a continuation of conditions now existing.

However, the committee urges both operators and manufacturers to study the trends of increased public demand for petroleum products as indicated briefly in the committee's report and covered more fully in the reports of the regular sources.

How much casing is being exported?

The total amount of casing and line pipe exported during 1946 amounted to 6.35 percent of the total production (American Iron & Steel Institute). The pipe mills estimate that 1947 will be about the same.

From another source, according to figures presented by Senator E. H. Moore and reported in THE OIL WEEKLY of June 2, 1947, there were 82,250 tons exported in the first quarter of 1947. This is approximately 6 percent of the total production of approximately 1.4 million tons in the first quarter. Of this amount, the report states 28,800 tons went to countries in which American nationals have little, if any, oil interests.

How can supply and demand of casing be balanced?

Referring to the figures of 28,800 tons (according to Senator Moore) exported to countries in which Americans have little if any oil interest, the committee feels that in view of the demands of the American people for more petroleum products and natural gas, and the resulting need for more drilling wells and natural gas pipe lines, that such shipments of that quantity of this tonnage (28,800 tons) that is not going to proven American interests should be deferred until after our supply is in balance with our own demand at home and abroad.

Petroleum operators should review their orders for oil well casing and make them as realistic as possible, thereby reducing the theoretical backlog and long delivery dates now being quoted by the manufacturers. They should also show their respective suppliers and manufacturers of materials the trend of increased demand for their products and the outlook for continuation of that demand, and they should refrain from purchasing casing for inventory purposes until the supply is in much better balance with demand.

Manufacturers of casing and large-diameter line pipe should study the trends of increased demand indicated herein and covered more fully in data issued by the American Petroleum Institute, U. S. Bureau of Mines, Interstate Oil Compact Commission, THE OIL WEEKLY, Oil and Gas Journal and National Petroleum News, and then, after checking specific trends with their regular customers and sources of raw materials, give consideration to any need for expansion for manufacturing facilities.

Supply companies should take full cognizance of the present confusion, conjecture and misunderstanding which exists among the many small operators whom they serve. These operators have always depended upon the established suppliers for their new casing and other materials. Now they are confronted by people who are taking advantage of the critical situation. It has reached the racketeering stage and substantial bonuses are being asked for new casing obtained by devious methods. It is reported that scrap dealers are trading steel scrap, for new oil country tubular goods, for which they ask excessive prices. Since oil country tubular goods are materials which are marketed exclusively in the oil fields and since there are numerous established suppliers who have always distributed those materials to the small operators in the oil fields, it is within the scope of the suppliers and manufacturers to see that the products go directly at established prices from the regular distributors to the petroleum operators who use them, which has always been the customary practice.

RECOMMENDATIONS

To provide a general basis for balancing supply with demand in all critical materials used in operations of the American petroleum industry at home and abroad, the committee submits:

The committee re-affirms the unfulfilled recommendation in its previous report of January 11, 1947, and urges the government to take prompt action thereon so that a continuing maximum supply of materials for petroleum operations can be expected from existing manufacturing facilities, and so that the atmosphere can be cleared for rehabilitation, replacement or expansion which may be needed. Those recommendations are:

That the government—

Discontinue priorities.

Discontinue purchases and directives (UNRRA, Lend-Lease, State Department, Treasury Department) diverting scarce industrial materials to foreign governments.

Defer construction of Public Works until the present shortages are relieved.

Revise export regulations (OIT, Department of Commerce) which seriously interfere with the American petroleum industry in carrying on its needed operations abroad. Present controls are primarily for control of exporters who ship materials abroad for resale, whereas the American petroleum operator uses material for American petroleum operations abroad. The petroleum industry should be permitted to use the general export license procedure and regulations for exporting the materials needed in its foreign operations in countries classified by the government as "K" countries.

Provides effective legislation which will give labor the protection and rights to which it is entitled, consistent with the rights of others, and at the same time encourages productivity instead of strikes, stoppages and slowdowns resulting from existing legisla-

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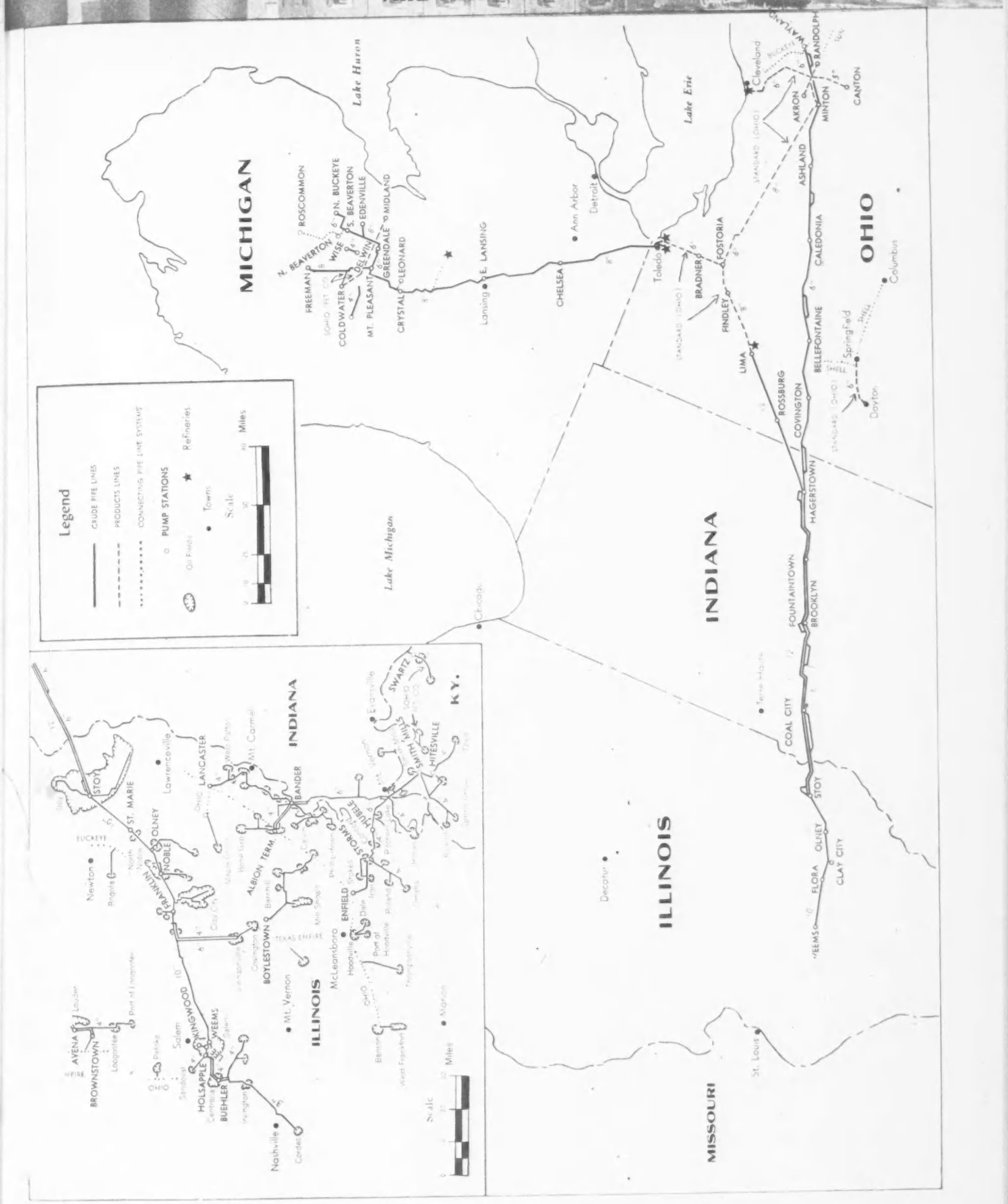
Pipe Lines of the U. S.

Sohio Pipe Line Company And Affiliates

19th of a Series



Oil Employe Training

By M. L. POWERS
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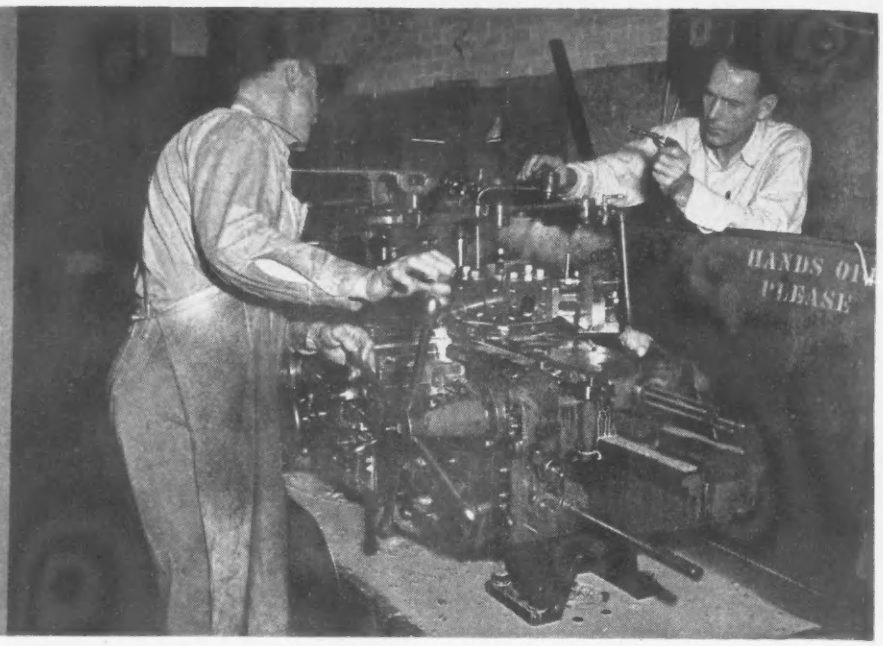

Above: Operation of the equipment in the repair shop gives the employe the "feel" of the job and emhpasizes the need for close attention to details.

MUCH has been said about training. Many oil companies installed training departments and programs during the war when it became necessary to expand operations and increase production of war materials.

Management spends considerable time debating the question, "Shall we have a training program?" This is not debatable for the reason that every company has a training program. When an employe is hired and put to work, his training begins and it continues the greater part of the time he remains in the employ of that company. It is not for management to decide whether or not it will have a training program, but to decide what kind of a training program it will have and, incidentally, at what cost.

Training programs may be divided into two kinds:

1. The accidental type of training.
2. The organized or planned training program.

The accidental type of training program is good. Many employes have been trained by accident. Take, for example, a recent incident where a man was hired and assigned to a job which he had never done before. On the fourth day, his hand was seriously injured—the result, seven weeks lost time. This is a case of accidental training. No doubt, the man learned something "the hard way" which he will never forget; however, this type of training is costly to management as well as being costly and painful to the man. It is, therefore, for management to decide on the kind of training program which it will have and the cost of training.

There are essentially four phases of employe training:

1. Induction of new employes.
2. Job training.
3. Upgrading training.
4. Supplementary training.

The first three are a direct responsibility of management. The fourth phase is worthy of considerable management consideration.

Induction of New Employes

It is important that new employes get off to a good start. It has been said that first impressions are lasting impressions. We all are aware of the fact that when we meet a person for the first time, we make up our minds immediately whether we like him. It takes a long time, and we must see a great deal of that person before we come to the conclusion that we were wrong in our first appraisal and change our minds. So it is with the new employe. He makes up his mind in the first few days about the company—if it is a good company, if he is glad that he joined this organization, or if he has made a mistake and should begin looking for a connection with a better organization.

Management is concerned with the proper induction and orientation of new employes for two reasons. The first is labor turnover and is tangible. It is a simple matter to measure labor turnover. The second is more intangible, more difficult to measure; however, it costs money. This is the matter of attitudes—the employe's attitude toward his job, his supervisor, the company, and his fellow workers. A man who has the right attitude will take more interest in his job and produce more. The man whose morale is low though not quite to the point where he will quit, does not do justice to himself or his company.

An example of the accidental method of inducting a new employe is the case where a new employe was hired by the superintendent and was directed to report to a foreman at a state location. The foreman took the new employe over to a location and assigned him a job to do. The new employe was anxious to prove that the company had made a good judgment in selecting him and immediately went to work to produce. Late in the day that job was completed and when the foreman returned to the location, he gave the new employe another assignment. The next day the foreman found the employe was hard at work trying to make a showing when an old employe came up behind him, tapped him on the

About the Author

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ler and said, "Say, Bud, if you don't slow up here, we're all going to be out of work." The new employe was now learning what was expected of him by management. The new employe did not wish to incur the ill will of his fellow workers, so the only thing to do was to adjust his working speed to conform to the practice of other employes.

The time spent in inducting a new employe varies considerably. Some companies spend as much as a week while others may spend as little as 30 minutes.

The essential points in inducting a new employe:

1. To make him feel that he is welcome in the organization.

2. To let him know something about the organization of which he is now a part.

3. To give him accurate information about the things he wants to know, such as hours, rate of pay, overtime, pay days, company benefits, and items of company policy.

4. To explain to him exactly how he fits into the organization and what his job it.

5. To give him a task. This is important because most people want to get to doing something as soon as possible. If the new employe is allowed to wait for several hours or even days before he is given an assignment, he begins to lose interest in his new job.

At this point the induction of the employe has been well advanced and it remains to answer questions affecting his employment dealing with company policy, his working conditions, safe practices, and other questions of this nature. It is better for him to get correct information from his supervisor than to ask questions of fellow workers on the side.

Job Training

At this point the question may be asked, "How do you train a new employe?" A majority of supervisors will answer by saying, "I just put him with a good man." This practice is questionable for two reasons:

1. What is a good man? How has this so-called good man been evaluated Such a form is given in Figure 1.
so that we know that the manner in which he does work conforms to the accepted practices?

2. What does the good man know about techniques of instruction? Has he been trained to instruct workers?

It then follows that job training has three features:

1. Job analysis,
2. Organization of instruction,
3. Instruction.

Recently we have heard a great deal about job analysis in connection with training, job evaluation, job descriptions, wage and salary administration, and no doubt we will hear more. There isn't anything secretive or complicated about job analysis. It is merely a systematic listing of the things which a person is required to do in a particular job and should include any information required to do that job. A form may be used which will aid in systemizing and simplyfying the work of analyzing a job.

Welding is an imitative trade, at which the successful trainee learns most by observing how the work is done, then by performing the same task under the watchful eye of an instructor.

FIGURE 1

JOB ANALYSIS

Job Title..... Date.....
Department..... Location.....

Major Type Jobs	Minor Type Jobs	Steps or Operations	Technical Information

The first step in analyzing a job according to this procedure is to look at the job as a whole, and divide the job into the several major types of work performed. Usually there will be somewhere between two and ten major divisions of work. The average number is four or five. In the second step, the major type jobs are considered one at a time and divided into the minor types of jobs. Again we may expect to find between two and ten minor types of jobs for each major type of job. The third step is to list the steps or operations performed in each minor type of job. We now have a complete list of operations which are required in the performance of the job. The fourth step is to list the technical information required for the proper performance of each operation.

When the job analysis is completed we are ready to review the entire analysis and determine what instruction will be given to the new employe first—also how much should be given at a time. It will be found that a new employe can learn his job in a much shorter time if the operations and necesary information are given to him in some organized form and over some reasonable length of time.

The third factor in job training is the actual instruction of the employe. Usually, this is done by the immediate supervisor; however, it is often delegated to some other person. Whoever does the training should be well trained and qualified in the art or technique of instructing. All supervisors are not good instructors just naturally.

It will readily be seen that there is a byproduct connected with the job analysis and organization of instructional procedure—methods improvement Many poor or inadequate methods will be revealed by an accurate job analysis The technique of methods improvement

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Crude Stabilization FOR PRODUCTION GAIN

By J. G. COULTRUP
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Stabilization of crude at the well head, so as to retain light fractions in the fluid going to the tanks, may effect marked economies over gasoline plant handling of separator gas, and reduce operating expense while stepping up API gravity and amount of fluid production. The author discusses advantages and disadvantages of crude stabilization well-head equipment.

WITH the increasing trend toward unitization of oil fields for the purpose of conserving "casinghead" gas, many operators and operating committees are studying "crude stabilization" as an alternate to natural gasoline plants. Where field conditions permit its application, a "crude stabilizer" plant offers some very definite economic advantages over a natural gasoline plant in both initial cost and operating expense. The crude stabilizer also can reduce appreciably the investment in surface equipment required outside of the plant area.

The natural gasoline plant is the outgrowth of the desire on the part of many companies and individuals to conserve and utilize the natural gas and light gasoline fractions produced with oil. The present type of natural gasoline plant is probably the most efficient and satisfactory which could have been developed for oil fields where the plant is owned and operated by a single individual or corporation, while the producing wells, royalties, etc., are owned by several individuals and companies. There are, however, inherent disadvantages to any system which processes only the gas from an oil field, both from the standpoint of the oil producer and the gasoline plant operator.

The normal gas-oil separator pressure in fields having gasoline plants ranges from 0 pounds per square inch gauge to a few pounds gauge (10 to 15) and usually is just sufficient to push the oil into lease tanks. Separators are sometimes elevated in order to reduce further the pressure required to discharge the oil to the tanks. Primary separation at these low pressures produces a gas with high gasoline content which, from the gasoline plant operator's standpoint, is very good. This high gasoline content gas is produced, however, at the expense of the oil, both in volume and gravity, and represents, as such, a loss to the oil producer. In most flowing and gas lift fields sufficient energy (pressure) is being dissipated at the well head (choke) to operate oil and gas separators at 50 to 100 pounds per square inch or higher. On a medium-gravity crude (25 to 35 degrees), at normal gas-oil ratios (750 to 1500) the lower separator pressures represent a loss to the oil producer of 1 to 4 percent in volume and one to two degrees in gravity on stock tank oil. In most cases the revenue from the sale of gas and/or share in plant products or bonus for high gasoline content does not compensate the producer for loss in volume and gravity of his crude.

From the standpoint of overall conservation the lower separator pressures do effectively reduce subsequent evaporation losses in treating, storage, and transportation of the crude. From the natural gasoline plant operator's standpoint, the low separator pressures are generally required in order to make the plant an attractive investment. The lower separator pressures, however, materially increase plant investment and operating costs as follows:

A. Low-pressure gas gathering systems are expensive to install because of the large diameters of pipe required.

B. Gas-gathering systems operating under vacuum are expensive to maintain because of the difficulty in detecting leaks and the danger that a major break or large number of leaks might create an explosive mixture within the plant or gas system.

Since the low-pressure gas is almost invariably compressed for sale, injection, gas lift, or for gasoline absorption only, the energy wasted at the well head must be restored to the gas, requiring more compressor capacity than would be required had the energy contained in the gas at the well head been conserved.

Major Disadvantage

The natural gasoline plant operator suffers from one major economic disadvantage in that his product (natural gasoline) is not a finished product but must be blended still further and treated for retail sale. The high volatility and small relative volume of natural gasoline make it very expensive to transport and to store. These factors reduce its market value at the field plant considerably below its true value.

When oil producers and royalty owners in a field decide to unitize for the purpose of increasing the efficiency of a field, reducing or eliminating flare gas, or pressure maintenance operations, and these operations call for installation of a plant of some sort, the question immediately arises, "Can this plant be made to pay its own way?" Since the oil-producers also are the plant operators, the economic picture is somewhat different from that of an outside natural gasoline plant operator. The crude stabilizer, as an alternate to a natural gasoline plant, overcomes some of the objections to the latter listed above.

Put into the simplest terms, the crude stabilizer is nothing more than a very efficient oil and gas separator producing as its products a "dry" gas and a crude containing most of the components which usually are considered as natural gasoline but with a low volatility (vapor pressure) so that it may be easily and economically transported and stored. If water is being produced with the oil in the form of an emulsion which requires heat for treating, this may be done in the stabilizing plant and the operation of heating and cooling the crude used to increase the efficiency of the oil and gas separation. The crude stabilization plant then becomes an oil, gas, and water separator but without evaporation losses usually associated with field emulsion treating systems. Several other impuri-

ties, including salt and hydrogen sulphide, may be removed at this point to produce a premium quality crude if economically justified.

The crude stabilizer in conjuction with gas compression for injection or sale is not applicable in all oil fields or in all ownership or unitization arrangements as is the natural gasoline plant. Some of the requirements are listed below.

From the economic standpoint, since the major product of a stabilization plant is an improvement in quality and an increase in quantity of the crude produced from the field or unit, the operating cost, including depreciation of the plant, must be shared by the oil producers and royalty owners on a per-barrel basis. The original financing of the plant and subsequent payment of operating costs probably are most easily arranged when a unitization plan, which divides the total production from the field on a basis of reserves, is agreed upon. It is possible, however, to arrange financing in some other manner and to divide production from the plant and operating expenses on a basis of *metered* and *sampled* volumes from the various leases.

One of the major economies of crude stabilization is the reduction of compressor horsepower by utilizing well head energy. This requires that every well connected to the plant be able to "buck" the separator pressure selected for operation of the field. The application is, therefore, limited to those fields containing a high percentage of natural flow wells although many gas lift wells are produced against a choke. In terms of reservoir conditions, this means that a crude stabilizer could be applied to almost any high pressure (flowing) field if installed early in the life of the field.

Reducing Compressor Horsepower

For example, in a gas-cap drive field, with or without pressure maintenance, it would be applicable so long as there is reason to believe that the production of free gas can be controlled to within reasonable limits, either by well repair or by closing in wells to conserve reservoir pressure. In a water-drive field, a crude stabilizer is applicable if there is reason to believe that the production of water can be controlled by well repair. The production of large volumes of water against high separator pressures would tend to increase lifting costs. In a dissolved-gas drive field, the crude stabilizer is especially applicable since the increasing gas-oil ratio during the early life of the field tends to offset the decline in reservoir pressures and hold the well head pressure constant. If sufficient compressor capacity is installed to handle the entire volume of gas at high intake pressures during the high gas-oil ratio period, provisions can be made for altering the compressor setup to handle the lower volume at lower pressure during the stripper stage and no additional compressor horsepower will be required.

To explain briefly the system as it applies to a field, the wells flow to a lease manifold as at present. Two separators are installed at each manifold, one for stock production and one for testing individual wells. These separators operate at a pressure as high as is consistent with the well-head pressures of all the wells in the field and preferably at a pressure sufficient to flow the oil to the stabilizing plant. Each separator is equipped with both oil and gas meters and automatic sampling devices on the oil lines. If the separator pressure is not sufficient to force the oil to the plant, one of several types of automatically controlled pumps may be installed. Since this completes the lease installation, a considerable investment in lease tanks, treaters, pumps, fire-walls, etc., is saved.

Simple or Complex

The oil and gas are carried from the lease separators through separate gathering systems to the stabilization and compressor plant. The gas, after scrubbing and possibly the removal of acid gases (H_2S and CO_2), goes to the compressors. The oil goes to an inlet surge drum where any free water is settled out and undissolved gas is released.

From this point on the process can be as simple or as complex as the economics warrant. For example, in a small field producing pipe line oil at separator pressure of 75 to 100 pounds per square inch, the oil might be brought back into contact with the gas at some intermediate to high pressure (500 to 1000 psi) and then multiple-stage separated to storage pressure. Gas from the intermediate and low stage separators and crude surge drum might be recompressed if economically justified. Volumetric gains of 3 to 5 percent and gravity gains of the order of 1 degree might be expected from such an operation on a medium gravity crude. Where large volumes of gas are involved, a circulating mineral seal oil system may be economically justified for stripping the gas. Where the oil also contains emulsion which must be treated, it is usually economical to heat the oil, strip out the light fractions, and stabilize them with the natural gasoline stripped from the gas. Hydrogen sulphide and salt may be removed from the crude at the same time. The natural gasoline is then blended back with the stripped crude to form a higher gravity stable crude. LPG may be produced as a by-product of this operation. The products of such a plant thus become a high-quality stable crude, liquified petroleum gas, and dry gas. Such a plant might give volumetric gains of 7 to 10 percent on the crude and gravity gains of two to three degrees on a medium-gravity crude.

Summary

To summarize, in a field where the ownership and reservoir conditions make such a plant feasible, the advantages to be gained are as follows:

1. Reduced overall field investment and maintenance (including plant and field).
2. Reduced overall field operating costs.
3. A more stable market for all products.
4. Production of premium quality crude which in some cases will affect both price and demand.

Some of the disadvantages, aside from the limited applicability:

1. Increased lifting costs on artificial lift wells due to higher separator pressures.
2. Increased tendency of flowing wells to log up and die.
3. Increased cost of segregating wet oil or alternatively treating the entire crude stream.

California Association Alarmed By Gas Shortage

The California Manufacturing Association has issued a bulletin stating that California's supply of natural gas is becoming so inadequate that "the state's whole economic progress faces a serious crisis." A. E. Hewitt, association executive vice president, charges that insufficient action has been taken to solve the problem.

Only constructive action, Hewitt says, has been taken by Southern California Gas Company, which "on its own initiative" contracted for gas from Texas and is laying a pipe line.

Northern California is also declared to be facing a gas shortage and the association complains that Pacific Gas & Electric Company is pushing a policy of having a considerable share of this Texas gas diverted to northern California. Southern members of the assication believe the northern utility should build its own gas-importing line.

West Coast Wildcats

Standard Oil Company of California has resumed drilling in its wildcat 20 miles north of Seattle near Lake Stickney. A depth of 6800 feet has been reached, but there has been no indication of oil. The test is rigged to go down to 10,000 if necessary. Drilling started early in January.

The Texas Company is also preparing to drill a wildcat in Washington at Queets on the Clearwater River.

Coring THE BURGESS SANDSTONE

By CARL A. MOORE
Associate Professor, University of Oklahoma

THE Burgess sandstone in the South Moore pool of Cleveland County, is perhaps the most unique producing horizon in Oklahoma. Originally called the "unconformity sand," it is Lower Pennsylvanian in age and lies about 150 feet above the Mississippian Mayes limestone and approximately 400 feet below the Oswego limestone. Precise correlations out of the area within the Cherokee shale are difficult. Many operators in the field termed it the "Bartlesville" sand, principally because it was believed to be Lower Cherokee in age. Other names applied to the sandstone have been the Red Fork and Dutcher. Inasmuch as The Carter Oil Company which first successfully cored the formation used the name "Burgess," that name is applied in this article. Recent correlations based on regional subsurface studies and paleontology indicate that the sand is Lower Boggy in age.

Prior to the continuous coring program which is herein described, the geological nature of this horizon was a problem as there were many ideas as to its lithology. Some thought it must be highly fractured because sufficient porosity had never been noted in samples or cores to account for the potentials of which the wells were capable. A unique phase from an engineering standpoint is the high core recoveries in the hard, cherty, glassy sands.

The following is not just another description of the coring of a unique formation but is intended to emphasize that engineering results and geological conclusions from coring are dependent upon the detailed information obtained from such coring. The information obtained from the coring of the Burgess sandstone has provided the first sound basis for the estimation of reserves, for studying the lateral and vertical lithologic changes within the horizon, and has saved money by enabling operators possibly to limit production without dry holes. Such results should be the aim in all fields where condition of the producing formation is not adequately understood.

History of Pool

The discovery well in the South Moore pool was Mid-Continent Petroleum Corporation's Westermeiser 1, NW SW SW 26-10n-3w, completed in July, 1944, at a plug-back depth of 8833 feet, for

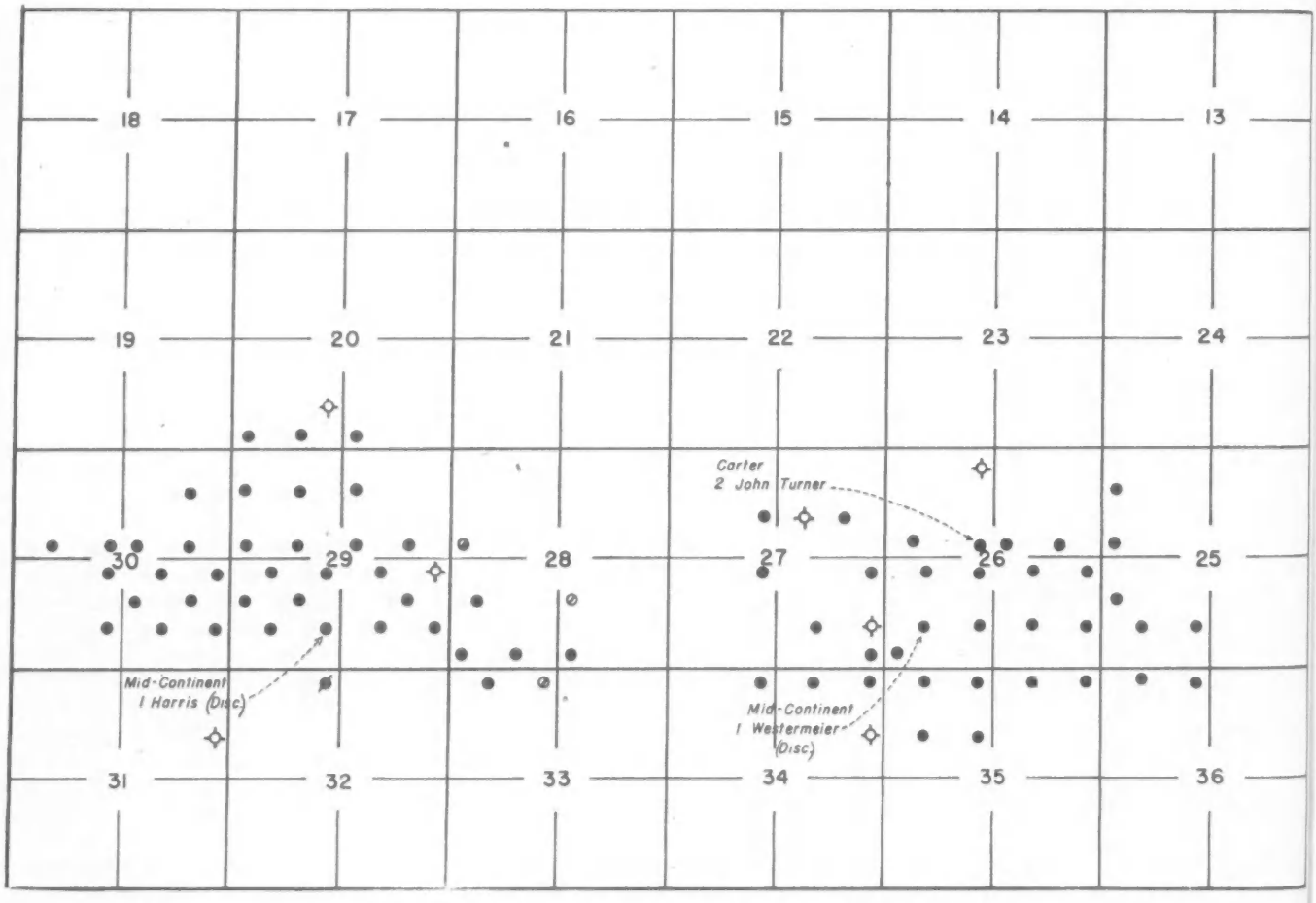


Figure 1. Location of South and West Moore fields, Cleveland County, Oklahoma.

332 barrels of oil per day through a 14/64-inch choke, from the Second Wilcox (Bromide) sandstone. Gravity of the oil was 37.8. Subsequent development in the field soon outlined a small, narrow productive area for this horizon.

Mid-Continent-Helmerich and Payne's Brand 1, NE SE SW 26-10n-3w, total depth 9219, found the Second Wilcox sandstone too low for production, plugged back to the Burgess sand zone, 7742 to 7772 feet, and was completed December, 1944, for 280 barrels of oil per day through 12/64-inch choke. Gravity of oil from this zone is 35. This started the active development of this producing horizon in the field. The Vance Rowe report for December 31, 1946, shows the total oil production for the South Moore Field to have been 1,937,500 barrels. Fully 90 percent of this production has been from the Burgess zone.

The Burgess sandstone reservoir in both the South and West Moore fields (Figure 1), is rather unique in its lithologic character and the manner in which it drills. Instead of "drilling off" as do most productive sandstones, the drilling rate varies from 20 minutes to over two hours per foot.

Prior to the drilling of Carter's Turner 2, SE SE NW 26-10n-3w, coring the Burgess sand zone had not been very satisfactory. Cores cut with a conventional barrel had generally recovered a few chips of quartzitic, cherty sandstone, extremely hard, often calcareous, and sometimes exhibiting a little staining. Normally the core cutters wore out within a foot or so. Most of the cores had been attempted in the upper part of the sand zone.

Samples through the zone showed these hard, quartzitic sandstones, often cherty, with alternating detrital limestones and hard shales, but with very few porous sands or sand clusters.

Electric logs indicate the top of the Burgess zone and point out the gross lithologic details. It is difficult, however, to differentiate between slightly porous sandstones, porous sandy limestones, and sandy shales, solely from electric logs. Furthermore, these curves give little information about the fluid content of the sand body because of the dominating influence of the lithologic effect over fluid effect.

There was considerable question as to how a sand body as hard as this could possibly produce oil. Some contended that the oil must be contained in fractures because the hard sands would

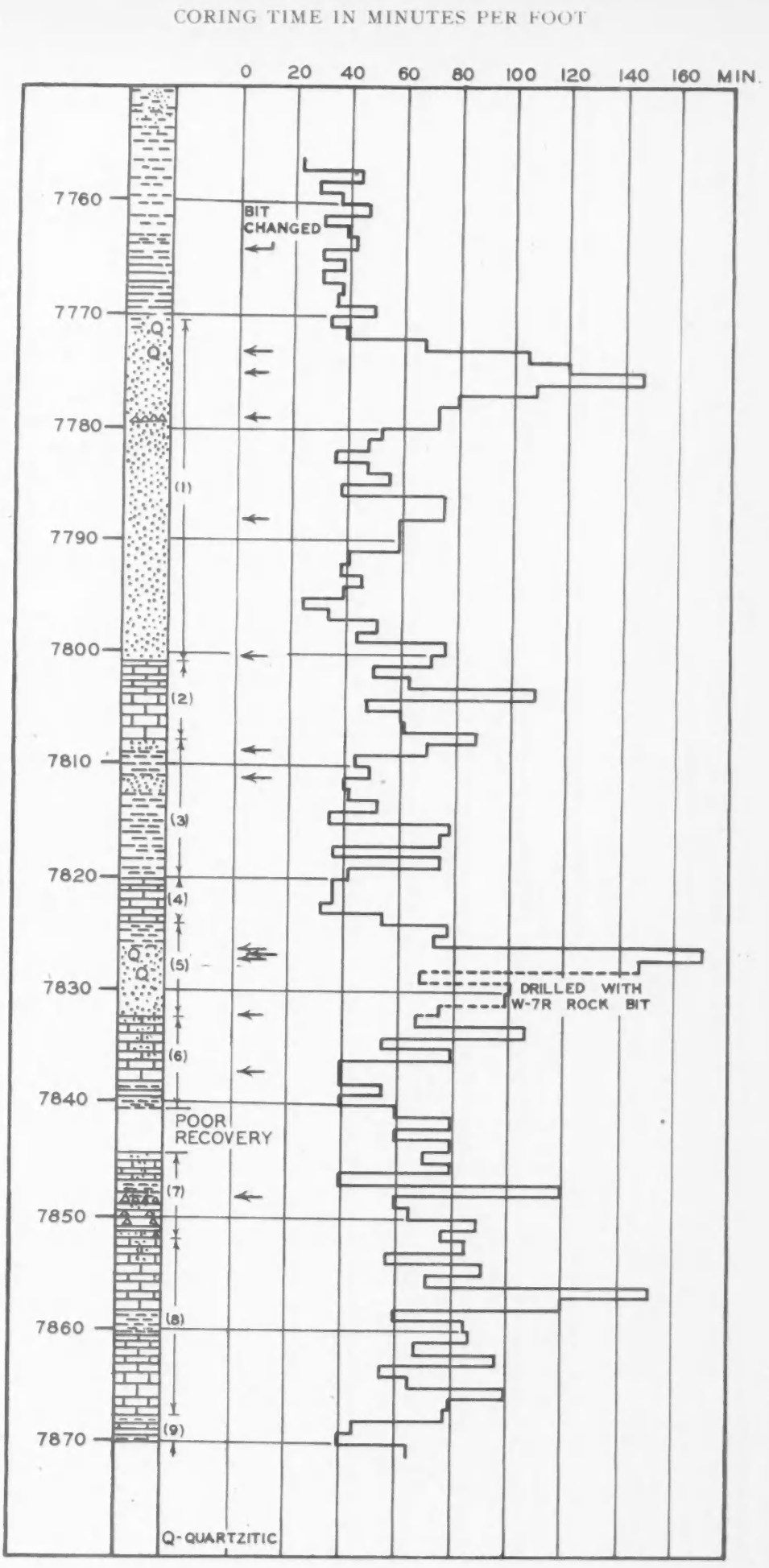
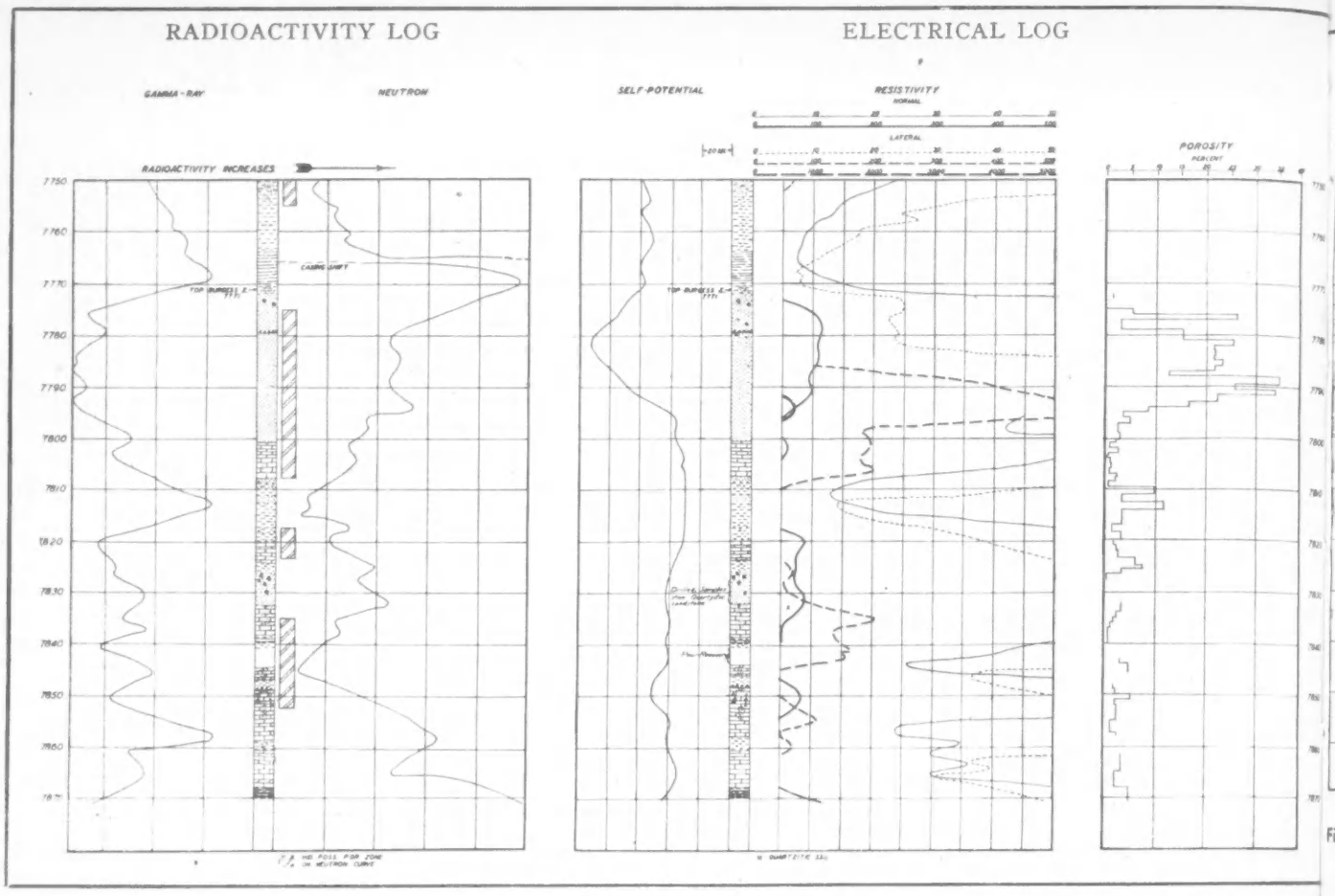


Figure 2. The Carter Oil Company's John Turner 2, showing relationship between coring time and cored lithology. The nine lithologic units are indicated.



not permit the passage of sufficient fluid to yield the production of which the wells were capable. Only a few porous sand bodies have been logged through the Burgess zone.

In the light of thees conflicting reports, Carter decided to core the entire Burgess section in Turner 2 in order to learn as much as possible of the nature of this reservoir. Wire line coring equipment was selected because of the ease and speed of operation and because of the possibility of short cores with the expected poor recoveries in the hard, cherty sands.

The results far exceeded the most optimistic expectations. Instead of recovering a few chips out of each core, recoveries of 18 to 24 inches were achieved out of each two-foot core. Loose, unconsolidated sand beds were encountered in the upper part of the horizon. These latter sands were cored for essentially full recoveries. Recoveries through the upper, stained, sandstone section averaged 79 percent, and through the entire Bugress section, 72.5 percent.

Drilling/Coring Time

The average time for coring the Burgess zone in the Turner 2 was 68 minutes per foot; maximum 171 minutes, minimum 24 minutes. Figure 2 shows the geological log of the cored interval related to the coring time.

Anderson-Prichard's Stephens Unit 1, SW SW NE 26-10n-3w, a ten-acre offset to Turner 2, drilled the Burgess zone with rock bits at an average rate of 56 minutes per foot; maximum 129 minutes, minimum 20 minutes. It required 16 days on Turner 2 to core and recover the first 100 feet of the Burgess Anderson-Prichard drilled the first 100 feet of the Burgess in the Stephens Unit 1 in six days. Fourteen core bits and one rock bit were used to core, and drill, 100 feet in Turner 2. Anderson-Prichard used seven rock bits to drill 100 feet in Stephens Unit 1.

Lithology

Some nine lithologic units may be recognized in the cored interval through the Burgess zone in the Turner No. 2. These are indicated on the lithologic log in Figure 2, divided as follows:

Top (1) Sandstone, 30 feet: hard, quartzitic, somewhat cherty in upper ten feet. Loose, unconsolidated, well-stained sands in lower 20 feet. This 20-foot interval is the principal producing zone. Some production may come from the upper ten feet, but very little, if any, production is possible from the Burgess zone below this lithologic unit.

(2) Limestone, seven feet: brown, semi-dense, hard, few shaly partings; traces of chert, few sandy streaks. No shows.

(3) Sandstone and shale interval, 12 feet; the thin sandstones are found in the upper part and are hard with poor porosity, with a little dark, poor, spotty staining. Some of the shale is soft and marily, while some is dark gray to black, and sticky. It is quite calcareous in lower feet.

(4) Limestone, four feet: brown to buff, hard, in part fragmental or clastic. No shows.

(5) Shale and quartzite, eight feet; shale at the top is dark gray to black, carrying thin streaks of glassy sand grains with no shows. Quartzite and quartzitic sandstones are extremely hard, light gray, very slightly calcareous, with a trace of pinpoint bubbling. This quartzitic sandstone was so hard that, after two coring attempts cut only one foot, it was drilled with a rock bit at an average penetration of 78 minutes per foot.

(6) Sandy limestone, nine feet: hard, light gray, coarse. Some oil-streaked in upper part; lower few feet contain dark brittle shales. A four-foot interval is left blank between units (6) and (7) because of poor core recovery. This was the only poor recovery in the entire cored interval.

(7) Sandy limestone with chert, seven feet: much the same lithology as above in addition to being cherty. Few tiny pinpoints of gas bubbles. There is one chert bed in this unit.

(8) Limestone, 16 feet: siliceous, hard, tight, locally sandy. Trace of tiny bubblings. Contains a soft gray-green shale bed over two feet thick.

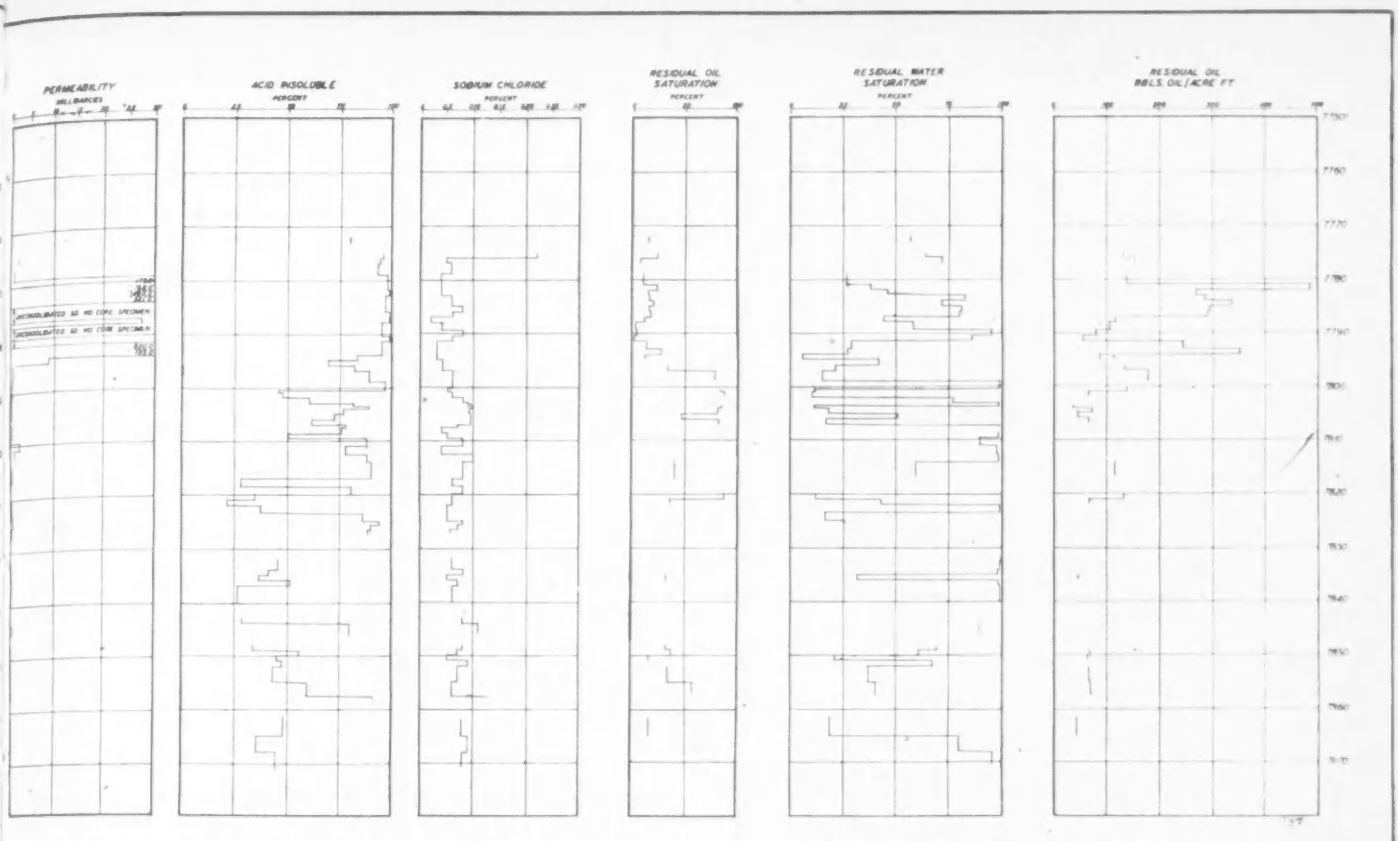


Figure 3. The Carter Oil Company's John Turner 2, SE SE NW 26-10n-3w. Comparison of radioactivity and electrical log with the cored lithology and to the core analysis.

(9) Alternating thin beds of green, sandy shale and light gray limestones, three feet.

Detailed geological descriptions of each core are to be found at the end of this report.

Completion Data

At the conclusion of the coring program, the well was drilled to the Mayes limestone (Mississippian) and electric log was run. Seven-inch casing was cemented with 500 sacks of cement at 7772 feet.

After drilling out to total depth of 7950 feet, a combination gamma-ray and neutron survey was run in an attempt to correlate logging techniques with core analyses and with sample data through the Burgess section. Following this, a drill-stem test was run on the Burgess sand with the packer at 7737, inside the casing, total depth 7950, and the well flowed an avearge of 27 barrels of oil per hour for 18 hours through ½-inch bottom hole choke.

A unique sand development was found in Turner 2, above the Burgess zone. This sand "drilled off" and carried a good show of oil. The electric, gamma-ray and neutron logs indicated adequate sand development with sufficient porosity for production. Accordingly, a plug was set at 7760 and the casing perforated with 83 shots from 7698-719 and 101 shots from 7730-55. With the packer set at 7678, depth of plug as 7760, the well flowed 17 barrels of oil per hour for 3½ hours from this particular sand. Following this test, the plug was drilled out, both this sand and the Burgess zone were acidized, and the well flowed 634 barrels of 34.2-gravity oil in 17 hours for the completion gauge.

Comparison of Radioactivity Log, Electric Log, With Core Analyses

Figure 3 is a diagrammatic representation of the relationship of the gamma-ray and neutron curves and the electric log to the detailed lithologic log as determined from the continuous cores. These curves are in turn related to the core analyses plotted on the chart. Several noteworthy facts are immediately apparent:

1. Gamma-ray and neutron curves include a thicker porous section than the core analyses would indicate.

2. The short porous section indicated by the neutron curve from 7817-24 is seen to embrace a very calcareous shale and shaly limestone interval, which lithology could account for the increase in hydrogen concentration that simulates porosity.

3. Gamma-ray curve shows the hard quartzite bed from 7826-32 to be somewhat shaly, which is not indicated by the cores.

4. The porosity as indicated by the neutron curve from 7835-52 may be an expression of chemically combined water in the shales.

5. The electric self-potential curve indicates the porous, productive sand body from 7771-95. The porosity determinations on the cores further corroborate the nature of this curve on the lower five feet of the sand body.

6. Porosities in the productive sand body, 7771-95, average 17 percent, with a minimum of 1.8 percent and a maximum of 35 percent in an unconsolidated specimen.

7. Permeabilities average 216 millidarcies, a minimum of 0.1 millidarcy, maximum 1940 millidarcies, with no determinations possible on the soft, unconsolidated core specimens.

8. All shale beds in the Burgess zone which are thick enough to be differentiated on the electric log agree closely with the cored lithology.

9. The two slightly porous horizons, 7822-35 and 7844-55, as indicated on the self-potential curve, do not appear to agree with the cored lithology or the porosity determinations.

10. Evidently the thin, porous streaks between 7810-15 are due to the selection of a sandy specimen for analysis.

11. There is essentially no permeability in any sample below 7795 with the exception of the sandy specimen at 7810.

12. The acid insoluble column denotes the percentage of insoluble residue in

the cores after digestion in dilute hydrochloric acid. There is a remarkable correlation between the acid insoluble values and the cored lithology. High values from 7810-25 are due to relatively insoluble shales.

Conclusions

The information derived from this coring program was of value in learning more of the nature of the Burgess sandstone reservoir, and more of the detailed lithology of this producing zone. It provided the first quantitative measure of porosities and permeabilities through the producing zone for estimating the ultimate recoverable oil in the reservoir.

Because of the detrital nature of this sandstone, and when it is realized that each well actually tests only one square foot of area through the producing horizon, every well will, of necessity, be entirely different and difficult of precise correlations with nearby wells. The detailed lithology of these cores, with the core analyses, electric log, and radioactivity log, will be the best and most complete study yet made on the Burgess sand zone in the South Moore field.

Lithologic Description of Wire Line Cores

BIT 1
Core 1

7756-7758	(Short core was cut to be sure equipment was functioning properly) 300 pounds pump pressure, 45 revolutions per minute rotary table speed, 6 points of weight on bit. Time: 21 minutes, 43 minutes.
Rec. 24″	Shale: Gray and green, some pyritic, very slightly calcareous; few fossils: **Chonetes granulifera** orthid brachiopods.

Core 2

7758-7764	800 pounds, 60 rpm, 8 points. Time: 28, 36, 46, 30, 39, 42.
Rec. 72″	(Could not pull core catcher with fishing tool. Had to pull drill pipe to recover core.)
Top 18″	Shale: Gray, some greenish, trace fine micaceous, slightly calcareous to dolomitic; few indistinguishable fossils.
54″	Shale: Gray to dark gray green, calcareous; quite flaky and markedly different texture than that above; some pyritic.

BIT 2
Core 3

7764-7770	800 pounds, 60 rpm, 7764-66, 8 points, 7766-70, 12 points. Time: 30, 38, 30, 37, 36, 49.
Rec. 72″	
Top 48″	Shale: Gray to dark gray, as above.
18″	Shale: Green, calcareous, some pyritic; fossiliferous indistinguishable brachiopods.
6″	Gray, calcareous, very finely micaceous; poorly preserved depauperate fauna.

Core 4

7770-7772	550 pounds, 40 rpm, 6 points. Time: 34, 39.
Rec. 24″	
Top 18″	Shale: Gray, calcareous, very fine micaceous; immature brachiopod.
6″	Shale: **Top of Burgess zone.** Gray to dark gray, calcareous, sandy with black, glassy quartzitic sand grains in the sale matrix; indistinguishable brachiopod. No shows.

Core 5

7772-7773′4″	550 pounds, 40 rpm, 6 points. Time: 68, 42 for 4 inches.
Rec. 16″	
Top 4″	Sandstone: Hard, quartzitic, black, calcareous, in matrix of hard black calcareous shale; **Marginifera.**
12″	Sandstone: Hard, quartzitic; top 2 inches dark gray, rest is glassy to light gray; some light brown stain, pinpoint bubbling, no odor.

BIT 3
Core 6

7773′4″-7775	550 pounds, 40 rpm, 8 points. Time: 63 for 8 inches, 120. No recovery. Core catcher failed to latch. Circulated samples indicated sandstone; hard quartzitic, fine, calcareous; no porosity; light gray glassy; some light brown stain; same glauconitic, trace pyritic.

BIT 4

(Bit was changed after cutting on 20 inches in order to see the degree of wear. It was found to be in good shape, although dull, so there was no worry about leaving a cone in the hole after an equal run.)

Core 7

7775-7777	550 pounds, 40 rpm, 8 points. Time: 147, 108.
Rec. 16″	
Top 7″	Sandstone: Hard, quartzitic, fine, calcareous, glauconic, good even brown stain, odor, taste; bubbling gas, bleeding yellow oil.
9″	Sandstone: Soft, fine, **loose,** good stain, taste, odor, porous; glauconitic. Was jammed into core catcher.

Core 8

7777-7779	550 pounds, 40 rpm, 8 points. Time: 80, 73.
Rec. 14″	
Top 2″	Sandstone: Fine, hard, quartzitic; stain, odor, bleeding yellow oil and bubbling gas; cherty in lower part.
12″	Chert: Gray, hard, no shows. Core bit "bald-headed."

BIT 5
Core 9

7779-7781	550 pounds, 40 rpm, 8 points. Time: 73, 53.
Rec. 24″	
Top 12″	Sandstone: Hard, quartzitic, fine, very slightly calcareous; brown, even stain, slight odor, poor porosity. Many soft streaks a few inches thick. Some bubbling gas and bleeding yellow oil; some bright black asphaltic streaks and inclusions.
12″	Sandstone: As above; softer, more porous.

Core 10

7781-7783	550 pounds, 40 rpm, 8 points. Time: 47, 36.
Rec. 24″	Sandstone: Soft, fine, porous, brown even stain, good sharp odor; glauconitic. Few hard streaks in upper 6 inches.

Core 11

7783-7785	550 pounds, 40 rpm, 8 points. Time: 47, 55.
Rec. 24″	Sandstone: Soft, **loose,** glauconitic, stain, porous, peculiar sour, burnt odor, probably due to the compaction of the drilling mud in the core catcher around the sandstone, squeezing out the water and leaving the mud additives.

Core 12

7785-7787	550 pounds, 40 rpm, 8 points. Time: 38, 75.
Rec. 24″	Sandstone: As above, same peculiar odor.

Core 13

7787-7788	550 pounds, 40 rpm, 8 points. Time: 75.
Rec. 8″	
Top 5″	Sandstone: Hard, poor porosity; odor, some bubbling gas; darker stain than above; glauconitic.
1″	Limestone: Gray, brown, shaly, semi-dense, fossiliferous.
2″	Shale: Gray to dark gray, non-calcareous, few sandy streaks.

BIT 6 (Rerun Bit No. 1)
Core 14

7788-7791′6″	500 pounds, 40 rpm, 6 points. Time: 59, 59, 59, 30, for 6 inches.
Rec. 42″	
Top 36″	Sandstone: Brown to white, fine, **loose,** soft, friable, fair oil-streaked; no apparent oil odor, but sour burnt odor.
6″	Sandstone: As above; white to spotty stain; odor as above.

Core 15

7791′6″-7795	500 pounds, 40 rpm, 6 points. Time: 10 minutes for 6 inches, 38, 45, 39.
Rec. 42″	Sandstone: Yellow-brown, fine, hard, fair porosity to tight in bottom 6 inches; good even yellow oil stain; sour, burn odor.

Core 16

7795-7797	500 pounds, 40 rpm, 6 points. Time: 24, 33.
Rec. 18″	Sandstone: Yellow-brown even oil stain, fine, hard, poor porosity; odor, bubbling gas, bleeding yellow oil in spots; few black, asphaltic "coaly" inclusions especially in lower part.

Core 17

7797-7800′6″	500 pounds, 40 rpm, 6 points. Time: 51, 44, 76, 60 for 6 inches.
Rec. 18″	
Top 10″	Sandstone: Hard, fine, good yellow-brown stain, slight odor, poor porosity; glauconitic.
8″	Sandstone: Harder than above; light gray glassy, quartzitic; no shows. Trace sandy limestone in lower 1 inch. (Estimate lost 7798-99. May have been soft sand that failed to push the hard sand up into the barrel.)

BIT 7
Core 18

7800′6″-7803	500 pounds, 40 rpm, 6 points. Time: 10 minutes for 6 inches, 50, 63.
Rec. 16″	
Top 5″	Limestone: Brown to buff, semi-dense; with calcareous green shale stringers carrying fine sand grains; no shows.
5″	Limestone: Brown to buff, siliceous, some cherty; few hard slightly calcareous siliceous green shale streaks in lower part.
6″	Shale: Hard, green, slightly calcareous, siliceous, some chert.

Core 19
7803-7805 — 550 pounds, 40 rpm, 8 points. **Time: 109, 47.**
Rec. 24″
Top 6″ — Limestone: Brown, dense, thin brown-black shale streaks, large chert inclusions.
4″ — Limestone: Brown and light brown, siliceous, cherty.
12″ — Limestone: Gray and brown, silty and fine sandy; siliceous and cherty; fossiliferous; cast of **Spirifer**; Questionable **Fusulina.**
2″ — Limestone: Brown, siliceous, cherty.

Core 20
7805-7807 — 550 pounds, 40 rpm, 8 points. Time: 60, 61.
Rec. 24″
Top 2″ — Limestone: Brown, semi-dense, siliceous, cherty.
7″ — Limestone: As above; somewhat silty.
15″ — Limestone: Brown, semi-dense, granular; few shaly partings; few thin silty streaks; fossiliferous, branchiopods.

Core 21
7807-7808′6″ — 550 pounds, 40 rpm, 10-12 points. Time: 88, 52 for 6 inches.
Rec. 18″
Top 4″ — Limestone: Brown, semi-dense, granular; few shaly and silty partings.
4″ — Limestone: Brown buff; silty and fine sandy, no shows; hard, siliceous; locally may be termed a hard limey sand.
10″ — Sandstone: Hard, quartzitic, calcareous, glauconitic; some spotty stain in lower 4 inches, poor porosity, locally may be termed a sandy limestone; brachiopod cast.

BIT 8
Core 22
7808′6″-781] — 550 pounds, 40 rpm, 6 points. Time: 18 minutes for 6 inches, 44, 49.
Rec. 30″ — (Couldn't pull core catcher; made trip with drill pipe to retrieve core catcher.)
Top 8″ — Limestone: Brown, semi-dense, silty and fine sandy, no shows.
8″ — Shale: Green, soft, well bedded, silty and calcareous streaks.
2″ — Sandstone: Fine, hard, light, gray glassy, no shows. Is a thin bed in the shale.
4″ — Shale: Green, silty, and fine sandy; **Lingula** and indistinguishable brachiopod.
8″ — Shale: Fine sandy green marl, amorphous; jammed in core catcher.

BIT 9
Core 23
7811-7814 — 550 pounds, 40 rpm, 8 points. Time: 40, 42, 52.
Rec. 36″
Top 18″ — Sandstone and Shale: Green to gray, many dark gray shaly beds and streaks; streaks of clastic limestone; chert fragments occur indiscriminately throughout the interval; locally appears quite conglomeratic.
18″ — Shale: Sticky; green in top 2 inches grading into black, somewhat calcareous, trace fossiliferous.

Core 24
7814-7817 — 550 pounds, 40 rpm, 8 points. Time: 35, 78, 75.
Rec. 32″ — Shale: Dark gray, somewhat calcareous, irregular streaks of medium crystalline limestone; few fossils occur indiscriminately throughout core; top 3 inches carries few indistinguishable brachiopods.

Core 25
7817-7820 — 550 pounds, 40 rpm, 8 points. Time: 36, 75, 42.
Rec. 20″
Top 12″ — Shale: Dark gray as above.
2″ — Shale: Dark gray, calcareous, few indistinguishable brachiopods; streaks of hard, black, glassy sand grains.
4″ — Limestone: Brown, dense and medium crystalline.
2″ — Conglomerate: Matrix of fossiliferous shale, some limestone fragments, black, glassy sand grains, large chert fragments; all highly glauconitic.
(Probably lost limestone because it was broken up.)

Core 26
7820-7822 — 550 pounds, 40 rpm, 8 points. Time: 36, 36.
Rec. 18″ — Limestone: Brown to brown buff, hard in part clastic or fragmental; irregularly bedded, crinoidal, coarse to dense crystalline; few anastimosing gray shaly streaks; one fragment exhibits a possible "algal" structure. No shows.

Core 27
7822-7825 — 550 pounds, 40 rpm, 8 points. Time: 32, 54, 78.
Rec. 18″
Top 2″ — Limestone: Brown to brown buff as above.
8″ — Limestone: As above, silty and sandy.
8″ — Shale: Dark gray to black, silty and fine sandy. There is a thin sandstone streak in middle of this shale, black, glassy, slightly calcareous, no shows. (Probably lost the shale.)

Core 28
7825-7826′6″ — 550 pounds, 40 rpm, 8-10 points: Time 73, 84 for 6 inches.
Rec. 18″
Top 8″ — Shale: Black, with black quartzitic sandstone stringers, especially in lower part; bubbling but no stain or odor.
10″ — Sandstone: Hard, black, glassy, slightly calcareous, some bubbling, no odor; cherty; streaks of hard black shale.

BIT 10
Core 29
7826′6″-7826′9″ — 550 pounds, 40 rpm, 10 points. Time: 65 minutes for 3 inches.
Rec. 2″ — Quartzite: Hard, light gray, fine, few calcareous spots.

BIT 11
Core 30
7826′9″-7827′6″ — 550 pounds, 40 rpm, 10 points. Time: 22 minutes for 3 inches, 122 minutes for 6 inches.
Rec. 3″ — Quartzite: As above, hard, generally calcareous. Drilled with rock bit 7827′6″ to 7832. Time: 25 minutes for 6 inches, 68, 100, 99, 75.

BIT 12
Core 31
7832-7834 — 600 pounds, 40 rpm, 6 points. Time: 67, 107.
Rec. 18″ — Limestone: Very sandy, light gray, fine, hard, slightly glauconitic, no shows.

Core 32
7834-7836 — 600 pounds, 40 rpm, 6 points. Time: 55, 80.
Rec. 18″
Top 6″ — Limestone: Sandy, light gray and yellow, coarse, tight; streaked with yellow oil stain, odor, bubbling gas.
12″ — Limestone: Light gray, coarse, hard, tight, very sandy in places.

Core 33
7836-7837 — 550 pounds, 40 rpm, 6 points. Time: 40.
Rec. 12″ — Limestone: Sandy, light gray, coarse, hard, tight, slightly glauconitic and crinoidal.

BIT 13
Core 34
7837-7840 — 600 pounds, 40 rpm, 6 points. Time: 40, 55, 40.
Rec. 21″
Top 5″ — Limestone: Sandy, light gray, coarse, hard, tight, slightly glauconitic and crinoidal.
7″ — Shale: Black, brittle.
7″ — Limestone: Crinoidal, white and gray ("salt and pepper" mottled texture), coarse, hard, tight.
2″ — Shale: Black, brittle, sandy streaks or inclusions.

Core 35
7840-7844 — 550 pounds, 40 rpm, 6 points. Time: 60, 80, 60, 80.
Rec. 12″ — (Core head completely worn out because shale "baked" inside core catcher.)
Top 2″ — Shale: Black.
10″ — Limestone: Very sandy, may be termed a calcareous conglomerate, glassy, quartzitic, crinoidal, coarse; chert and quartz fragments, gray and white, hard, tight.

Core 36
7844-7846 — 550 pounds, 40 rpm, 6 points. Time: 70, 80.
Rec. 17″ — Limestone: Sandy, crinoidal, some fossiliferous, gray with white crinoids, hard, tight; few tiny bubbles of gas seen in wet core.

Core 37
7846-7848 — 550 pounds, 40 rpm, 6 points. Time: 40, 120.
Rec. 12″
Top 9″ — Shale: Light green, dip 1-2, hard, non-calcareous, siliceous.
3″ — Chert: Light green; few limey streaks and inclusions.

BIT 14
Core 38
7848-7849 — 550 pounds, 40 rpm, 6 points. Time: 60.
Rec. 12″ — Limestone: Sandy, siliceous, light gray, hard.

Core 39
7849-7852 — 550 pounds, 40 rpm, 6 points. Time: 65, 90, 77.
Rec. 36″ — Limestone: Light gray, fine, few chert inclusions, hard, tight; silty, bubbling gas, slight odor on fresh break.

Core 40
7852-7855 — 550 pounds, 40 rpm, 6 points. Time: 85, 57, 92.
Rec. 16″ — Limestone: Sandy, siliceous, light gray, hard.

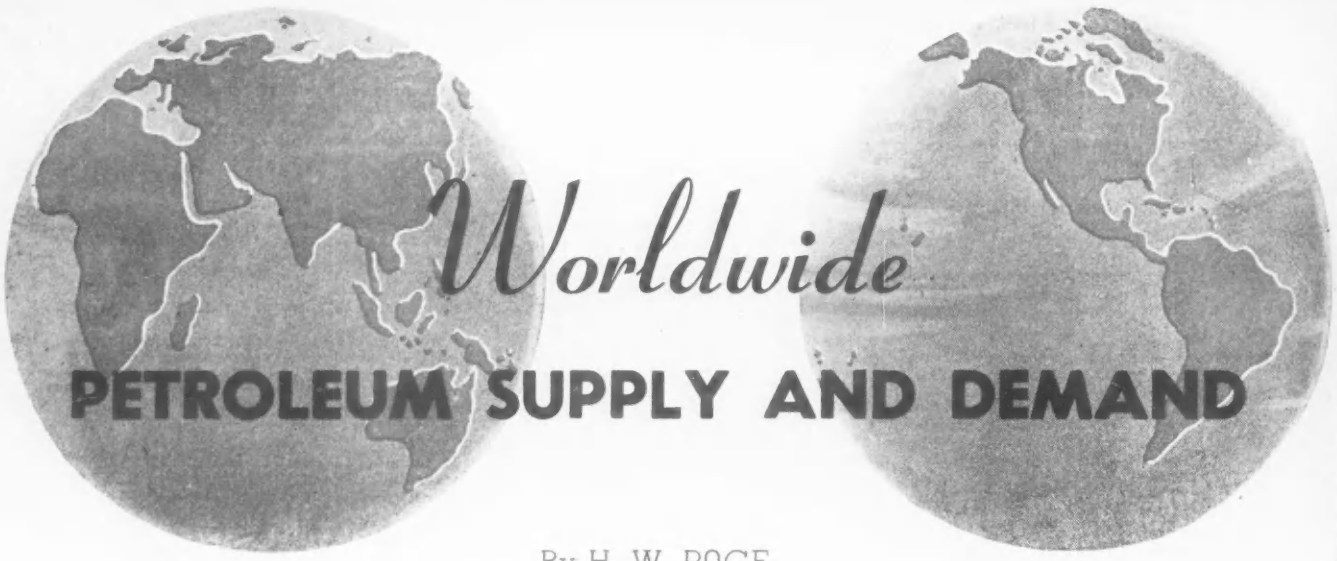
Core 41
7855-7857′6″ — 550 pounds, 40 rpm, 6 points. Time: 72, 152, 75 for 6 inches.
Rec. 13″ — Limestone: Light gray, siliceous, fine, hard, tight; faint odor on fresh break.

Core 42
7857′6″-7861′6″ — 550 pounds, 40 rpm, 6 points. Time: 45 for 6 inches, 60, 85, 87, 52 for 6 inches.
Rec. 36″
Top 4″ — Limestone: Light gray, siliceous, fine, hard, tight.
28″ — Shale: Gray gren, soft, some streaks of limestone as above.
4″ — Limestone: Light gray, semi-dense, very hard and tight.

Core 43
7861′6″-7865 — 550 pounds, 40 rpm, 6 points. Time: 15 for 6 inches, 97, 55, 65.
Rec. 20″ — Limestone: Light gray, siliceous, fine, hard, tight.

Core 44
7865-7868 — 550 pounds, 40 rpm, 6 points. Time: 100, 80, 78.
Rec. 36″
Top 35″ — Limestone: Green gray, fine, hard, tight, semi-dense with inclusions (bands, lenses, patches) of limestone, light gray, fine, hard, tight.
1″ — Shale: Green, soft.

Core 45
7868-7871 — 550 pounds, 40 rpm, 6 points. Time: 45, 40, 65.
Rec.12″ — Alternating thin beds of green sandy shale and light gray limestone, fine, hard, tight.



Worldwide PETROLEUM SUPPLY AND DEMAND

By H. W. PAGE
Head of Coordination & Economics Department,
Standard Oil Company (New Jersey)

THE industry will be in a period of rapid worldwide expansion for quite a few years. During this period little, if any, spare capacity will be available and the problem will be to expand fast enough to meet increasing demand in full and on time. The principal problem of the industry will, therefore, be diametrically opposite from the prewar problem of dealing with surpluses.

To avoid any misinterpretation, I would like to emphasize that the worldwide problem, as we see it, is not one of basic supplies. Proven reserves of raw materials are adequate and many more will be found. The problem includes the need for rapid development of crude reserves, but is principally one of facility construction to gather, transport, refine and distribute the rapidly increasing volumes of petroleum. The reason for the magnitude of this problem today is that normal expansion of facilities, which always included adequate safety factors, was retarded during the war. Material shortages in the postwar period also have hampered expansion. Petroleum consumption, on the other hand, has grown at a prodigious rate.

We recognize that the estimates presented here are subject to appreciable variations, but we think they are sufficiently representative of the probable situation to justify the broad interpretation we have placed on them. I think we can all agree that the primary consideration of the industry is to meet the public's needs. With this as an objective, you will appreciate why we feel that the industry could not afford to gamble with any less extensive or slower expansion than is presently contemplated, particularly in view of the present necessity to use obsolete and inefficient equipment and uneconomic transportation to meet this year's demands.

Table 1 shows the estimated supply and demand for 1946, 1947 and 1951 by areas—the U. S., Western Hemisphere outside the U. S., and the Eastern Hemisphere excluding Russia. The estimated increase in total demand over the 5-year period is startling. The 1951 requirements will be about 9,400,000 barrels daily. This is an increase of more than 2,100,000 b/d, or 30 percent above 1946. After considering differences in stock buildup, supplies must be increased by almost 2 million b/d, or 400,000 b/d each year, if these demands materialize.

Looking at the individual areas, the U. S. domestic demands in 1951 show an increase of more than 1,100,000 b/d, or 23 percent above 1946. Offhand, this might seem exaggerated. However, domestic demands in 1946 were 20.5 percent above 1941. This occurred in spite of the restricted output of civilian petroleum consuming equipment. Everyone agrees that the next five years will be a period of high production of petroleum consuming equipment — automobiles, trucks, busses, farm equipment, railroad diesel engines, airplanes, home heating units of all types, etc. Therefore, consumption should be expected to increase more rapidly than during the restricted period.

In the foreign areas, excluding Russia*, demands are expected to increase even more rapidly, percentagewise, than at home. A total increase over 1946 of about 43 percent, or more than 1 million b/d, is forecasted for 1951.

In the Western Hemisphere, outside the U. S., the increase over five years is 260,000 b/d, or 32 percent. This is the same rate of increase as actually occurred between 1941 and 1946. With increasing industrialization of the Latin American countries and a continuing high level of economy in Canada, this forecast might well be considered as conservative.

The Eastern Hemisphere demands are expected to increase at a more rapid rate than in the other areas. The projections show an increase in the five years of about 760,000 b/d, or 50 percent. This is slightly higher than the prewar trend. Demand in this same area increased 40 percent during the five-year period, 1933-1938. There are several reasons why the rate of consumption increase during the first postwar period should exceed that of the last prewar period and also the rate in other areas.

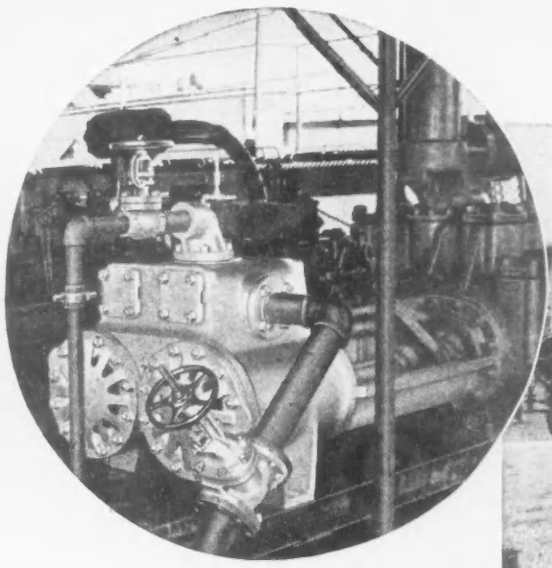
1. The Eastern Hemisphere suffered most from the war. The 1946 consumption was abnormally low because of inadequate consuming facilities, currency difficulties and political factors. Therefore, this area has the furthest to go in terms of reaching a normal consumption level and a normal rate of increase.

2. Coal shortages, which are expected to continue during the five-year period in some areas, principally England, result in a greatly expanded demand for both distillate and residual fuels in relation to prewar.

It is interesting to note that in 1946 the per capita demand in the U. S. was 571 gallons, while in the Western Hemi-

An address by H. W. Page, head of Coordination & Economics Department, Standard Oil Company (New Jersey), before the Independent Petroleum Association of America, Jackson, Miss., May 9, 1947.

* When the words "foreign," "world" and "Eastern Hemisphere" are used hereafter, the phrase — excluding Russia — will be dropped for simplicity.)



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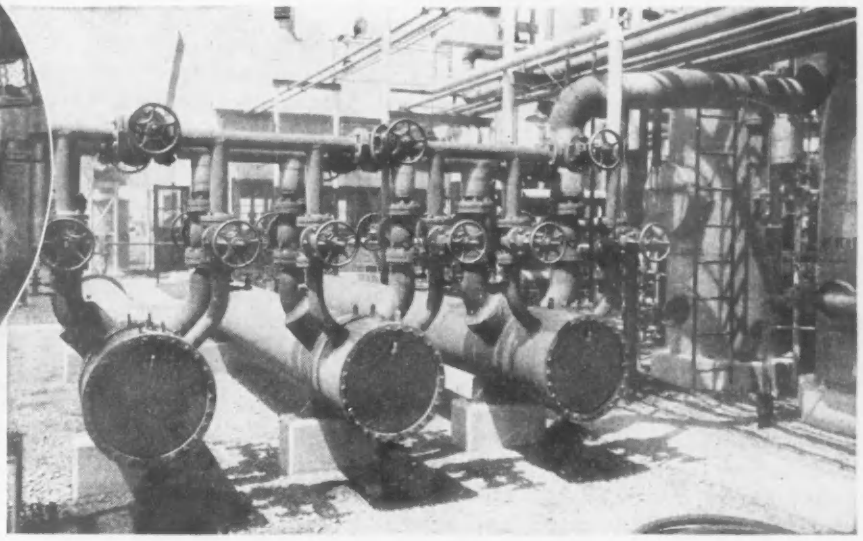

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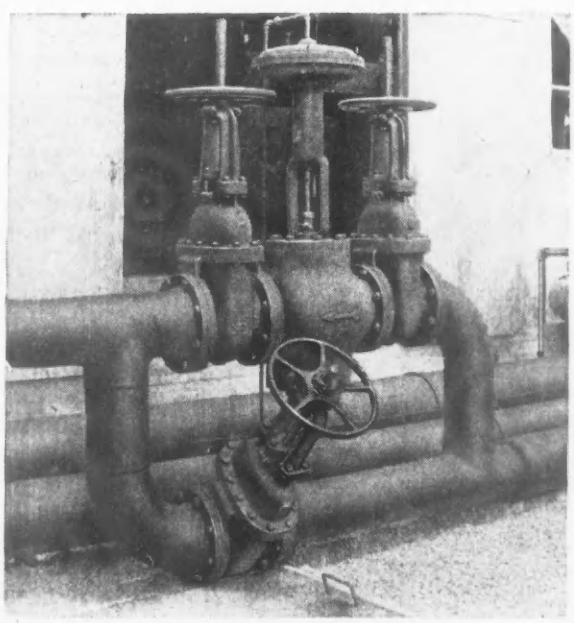

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sphere outside the U. S. it was 95 gallons and in the Eastern Hemisphere only 14 gallons. The potential foreign demand is, therefore, far above that estimated in this analysis. It is recognized that changes in flow of world trade and dollar availability could alter the estimated demands either up or down. The estimates are based on the assumption that there will be a relatively high level of trade.

In examining the supply for this 1 million b/d increase in foreign demand, consideration should be given to the availability and economics of product exports from the U. S. Product exports in 1946 were 300,000 b/d, or 5.7 percent of the total U. S. demand. Most of these exports were made for only one reason—foreign refiners were unable to supply the required products. Looking to the long-term future, product exports could be made available, in addition to domestic requirements, in two ways—firstly, by large scale synthetic production, and secondly, by building more refining capacity than needed for domestic requirements and importing additional foreign crude. Neither of these makes sense from an economic standpoint. Domestically produced synthetic products hardly could be expected to compete in the foreign market with the products from foreign crude. Moving foreign crude into new refineries in the U. S. for the purpose of exporting the products involves additional ocean transportation costs compared with refining the same crude in foreign areas to supply the same markets.

It seems inevitable, therefore, that eventually the foreign requirements will be supplied entirely from foreign sources —with the minor exceptions of specialties, packaged goods and tributary movements where net transportation savings may be made.

Based on this assumption, the increased foreign refining required would be about 1,300,000 b/d in 1951 compared with 1946—that is, 1 million b/d to meet increased demand and 300,000 b/d to eliminate product exports from the U. S. Will this occur in 1951? It is my considered opinion that it will not. The job is simply too big in such a short time. Even 1 million b/d is a lot of oil in anyone's language. It is large in terms of production development, in terms of pipe lines and tankers, in terms of distribution and terminal facilities, and particularly in terms of refineries. The task in foreign areas of merely meeting the increased demand will require capital investments of $2½ to $3 billion in the five-year period. These investments will be in addition to the capital required to maintain capacity at its existing level. The material and personnel requirements to carry out the required projects are tremendous. Engineering departments of oil companies and of contracting firms are already overloaded with work. It is for these reasons we feel that the eventual diversion of export supplies to foreign sources will not occur in five years.

Foreign Refining Capacity

A study has been made of existing foreign refining capacity. This capacity was not fully utilized in 1946 for various reasons. In most cases availability of suitable crude was inadequate. By the first of this year runs were 100,000 b/d above the 1946 average of about 2,200,000 b/d. By 1951 it is expected that the refineries in operation on January 1, 1947, will be able to run 75,000 b/d more than on that date because of increased availability of suitable crudes, bottleneck removal, etc. Therefore, without any new construction or major rehabilitations, the 1951 crude runs could exceed those of 1946 by 175,000 b/d. A survey of presently announced industry plans for new construction and major rehabilitations from January 1, 1947, to 1951 shows a total of about 900,000 b/d of new capacity. Analysis of this new capacity, by areas and companies, leads us to believe that an additional 100,000 b/d will be announced, and possibly may be completed by 1951 — or a total of 1 million b/d.

If all of these plans and expectations are realized, foreign refinery runs in 1951 would exceed those of 1946 by 1,175,000 b/d. Using the overall demand estimates previously mentioned, the resulting export demand on the U. S would be about 150,000 b/d of products, plus 100,000 b/d of crude, or a total of 250,000 b/d, compared with a total of crude and products in 1946 of 414,000 b/d.

If foreign demands turn out to be lower than estimated, the effect would, no doubt, be felt first on U. S. product exports because of the economic urgency, and perhaps even physical necessity, to reduce the export load on the U. S. to a minimum as soon as possible. If less exports are required, the requirements for imports would be reduced by a like amount and the requirements for new domestic refining capacity to operate on imported crude would be delayed. There is no reason why such a situation would have any effect whatever on domestic crude production. Total demand on the U. S. will continue to increase in any case, as the increase in domestic demand will offset any declines in exports.

If, for some reason not now predictable, foreign demands fell below estimates by more than 150,000 b/d, it might then be expected that the installation of new foreign facilities for crude production, transportation, refining, etc., would slow down a corresponding amount to relieve the excessive load on capital funds and personnel. If demands are lower than estimated, income will also be lower than estimated and, therefore, less funds will be available for expansion. Demand and supply estimates must, therefore, be tied together to a large extent.

Most of the new refining installations and rehabilitations will be made in the Eastern Hemisphere. There, the refineries will be backed up by adequate proven crude reserves, which can be developed, produced and delivered on a competitive basis with other world supply sources. Eastern Hemisphere refinery runs in 1951 are expected to exceed those of 1946 by about 750,000 b/d. This will require a corresponding increase in Eastern Hemisphere crude production and, in addition, the replacement of some 270,000 b/d of crude and products

TABLE 1
Supply & Demand—World (Excluding Russia)
1946-1951

	BARRELS DAILY				
DEMAND	**1946**	**1947**	**Percent Over 1946**	**1951**	**Percent Over 1946**
United States	4,907,000	5,199,000	+ 6.0	6,025,000	+ 22.8
Western Hemisphere (except United States)	820,000	888,000	+ 8.3	1,080,000	+ 31.7
Eastern Hemisphere (except Russia)	1,527,000	1,721,000	+12.7	2,288,000	+ 49.8
Total	7,254,000	7,808,000	+ 7.6	9,393,000	+ 29.5
Stock Increase (U.S.A.)	119,000	39,000	.....	.....	.....
Stock Increase (Foreign)	58,000	.....	.....	11,000	.....
Shipments to Russia	48,000	48,000	.....	25,000	.....
Total	7,479,000	7,895,000	+ 5.6	9,429,000	+ 26.1
SUPPLY:					
U. S. A. Production (Crude and Natural, etc.)	5,070,000	5,254,000	+ 3.6	5,576,000	+ 10.0
Western Hemisphere (except U. S. A.) (*)	1,445,000	1,565,000	+ 8.3	1,896,000	+ 31.2
Eastern Hemisphere (except Russia) (*)	964,000	1,076,000	+11.6	1,957,000	+103.0
Total	7,479,000	7,895,000	+ 5.6	9,429,000	+ 26.1
REFINERY RUNS:					
United States	4,740,000	4,923,000	+ 3.9	5,440,000	+ 14.8
Eastern Hemisphere (except U. S. A.)	1,206,000	1,286,000	+ 6.6	1,628,000	+ 35.0
Eastern Hemisphere (except Russia)	975,000	1,155,000	+18.5	1,728,000	+ 77.2
Total	6,921,000	7,364,000	+ 6.4	8,796,000	+ 27.1
Net Movement—Western to Eastern Hemisphere—(except Russia)	640,000*	685,000*	+ 7.0	367,000	— 42.7
Exports from U. S. A.	414,000	419,000	+ 1.2	250,000	— 39.6
Imports into U. S. A.	370,000	403,000	+ 8.9	699,000	+ 88.9

* In addition, U. S. exports to Russia are 8,000 b/d in 1946 and 1947.

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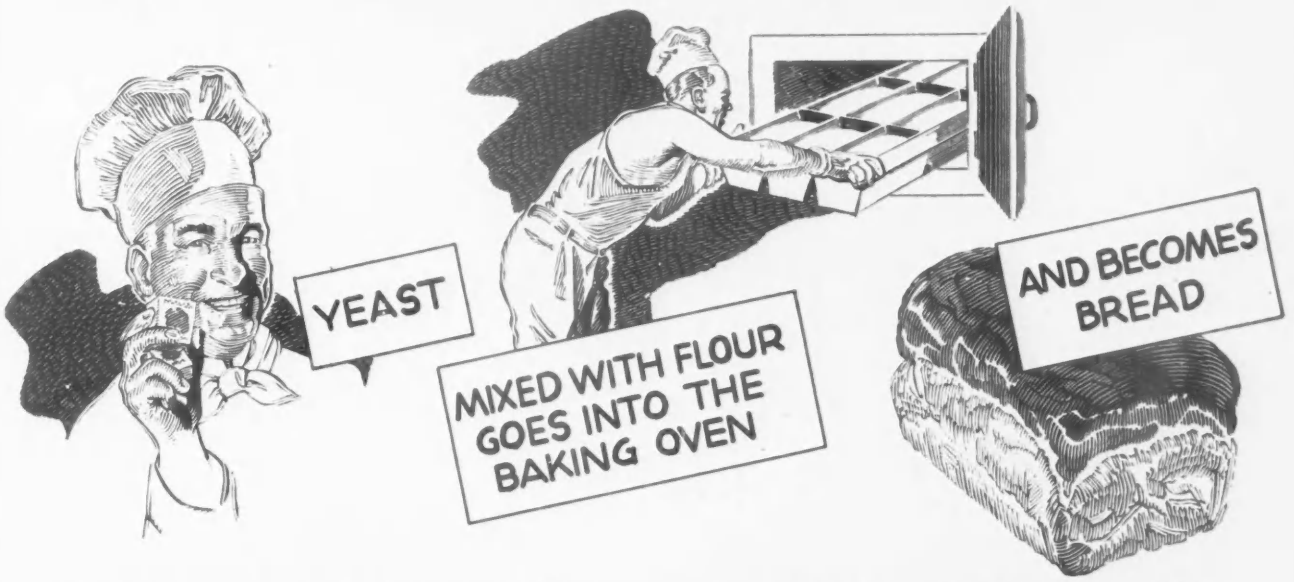

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now moving into the Eastern Hemisphere. In total, this will require 1 million b/d increased crude availability in the Eastern Hemisphere. Other areas than the Middle East, particularly the Far East, may be expected to increase by 200,000 b/d, therefore, an 800,000 b/d increase will be required in the Middle East. If all the presently projected pipe lines are not completed by 1951, a large amount must move by tanker through Suez.

It will be noted in Table 1 that the net movements into the Eastern Hemisphere were about 650,000 b/d in 1946, but that only about 370,000 b/d will be available in 1951. This change will be gradual and progressive and, we think, will continue until each hemisphere is practically self-sufficient. When this will arrive is difficult to predict—it probably will not be before 1955.

The opinion has been expressed that when the new Middle East pipe lines and new Eastern Hemisphere refineries are brought into operation there will be drastic dislocations in the industry. A study of the question indicates the probability that dislocations, if any, will be insignificant. For example, crude is already moving by tanker through Suez and will increase considerably before the first pipe line is ready. The initial operation of the first line might be only half its maximum capacity, or even less, if the starting date could be advanced thereby. This would result principally in a displacement of tanker movements. As new refining capacity became available to handle this high sulphur crude, the movements would be stepped up—by pipe line to the extent capacity is available and the balance by tanker.

When a new 100,000 b/d refinery comes into operation, it might be expected that operations somewhere else would be shut back an equal amount. However, with demands increasing at the rate of almost 400,000 b/d each year, it will be necessary to complete one of these refineries, or the equivalent, every three to four months if supply is to stay in balance with demand. When a new refinery is brought on stream in England, for example, the former supplies from refineries in the U. S. Gulf, Caribbean and Middle East will immediately flow to other areas where demand will be increasing and stocks probably will be low.

Immediate Outlook

In the previous discussion, we have skipped from 1946 to 1951 without considering the intervening years. It was mentioned that foreign refinery runs in 1951 might exceed those of 1946 by as much as 1,175,000 b/d. However, relatively little new capacity will come into operation this year or next. Not enough, most probably, to keep up with increasing demand. Therefore, we expect the 1947 and 1948 demand for product exports to equal or exceed the actual 1946 exports. In 1949 export demand should start to decline with the completion of several large foreign refineries. Still more refineries will be completed in 1950 and 1951, and further declines can be expected in export demand on the U. S. As mentioned before, this does not mean a decline in total demand on the U. S., as the domestic requirement growth will probably exceed the export decline by an appreciable margin. The export requirements during the next few years may be difficult to meet in full. Refining capacity and crude gathering and transportation facilities are the bottlenecks. Normally, the industry would have spare capacity in all branches with the least efficient facilities as standby. However, the war and material shortages since the war, have prevented the normal additions to capacity—but not the normal growth in demand. Material deliveries are still slow. Construction organizations are overloaded with work. In some foreign areas, political and currency difficulties are slowing down progress. In the near future, time is working against the industry—that is, demands are increasing more rapidly than new capacity can be brought into operation.

TABLE 2

U. S. Industry Statistics
April 1, 1946-March 31, 1947
Statistical Data on Actual Domestic Situation*

	BARRELS DAILY		
	Districts 1, 2 & 3	Districts 4 & 5	Total U. S.
Domestic Crude Production	3,752,000	1,042,000	4,794,000
Crude from District 4	20,000	(20,000)	.....
Natural Gasoline and Condensate Prod., etc.	261,000	63,000	324,000
Imports	391,000	1,000	392,000
Total Supply (Local)	4,424,000	1,086,000	5,510,000
Domestic Demand (Local)	4,096,000	951,000	5,047,000
Export Demand	330,000	88,000	418,000
Total Demand	4,426,000	1,039,000	5,465,000
Product Stock Change	—4,000	+29,000	+25,000
Crude Stock Change	+2,000	+18,000	+20,000
Total	—2,000	+47,000	+45,000
Crude Run to Stills	3,883,000	915,000	4,798,000
Max Crude Runs to Date†	3,988,000	950,000	4,938,000
Same Adding Max. of Individual Dists.†	4,059,000	955,000	5,014,000

Miscellaneous Data
Total U. S. April 1, 1946-March 31, 1947

Import Breakdown		Export Breakdown	
Crude Oil	250,000	Crude Oil	117,000
Residual Fuel	124,000	Residual	27,000
Others	18,000	Gasoline	118,000
		Kerosene & Distillate	104,000
Total	392,000	Others	52,000
		Total	418,000

Notes: * 9 months Bureau of Mines, 3 months estimated from API data.
† Bureau of Mines' reports used through December, 1946.
4-week averages of API data thereafter.

Table 2 shows a statistical summary of the principal demands and operations during the 12-month period ending March 31. These facts provide the base for estimation of the next 12-month period; i.e., the period ending March 31, 1948, when the peak winter demands start to decline.

Table 3 shows an estimate of the probable demand, crude production, and refining operations divided into PAW Districts 4 and 5 and East of the Rockies—that is, PAW Districts 1, 2, and 3. This division has been made because it is believed that the problems are separate and movements between the areas East and West of the Rockies are generally prohibitive economically.

Demands are increasing rapidly. We estimate that, even if there is a business recession, the demand for prime products—that is, all products except the unavoidable by-product of the industry—residual fuel oil—will increase 4.5 percent over the previous 12 months. If industrial activity remains at its present level, the increase in demand for these products is estimated to be more than 7 percent. These can hardly be considered as exaggerated estimates, in view of the fact that the demand for these same products in the six-month period ending March 31, 1947, was 14 percent above the post-war six months ending March 31, 1946.

New transportation and refining facilities are under way and planned but, with material shortages and slow deliveries, very little new capacity will become operable before the end of next winter. The problem in meeting the demands is, therefore, one of maximum utilization of existing capacity. It is not one of basic supply, but of temporary dislocations brought about by the restrictions on construction during the war and the material shortages following the war. Some examples of these dislocations are:

1. Insufficient pipe line capacity to move the full efficient production of West Texas fields to refining centers—particularly in the Midwest—and inadequate refining capacity in the Midwest equipped to process this high sulphur crude. Plans have been made to rectify this situation, but only small improvements can be expected before the middle of next year.

2. Late this year a small amount of additional crude might become available in the Persian Gulf. This added crude will be difficult to utilize until more refineries equipped to handle high sulphur crude become available. However,

This type of drilling operation doesn't pay off in the oil business...

Even if the ostrich **could** *see inside the hole, no one ever heard of an ostrich striking oil. He lacks the proper equipment and experience. It's different with oil men. They* **do** *strike oil because they* **can** *"see inside the hole" with Eastman precision instruments. They also have available Eastman equipment . . . and Eastman experience that is measured in millions of man hours. Yes! The successful oil operator finds that* ***it pays to call Eastman!***

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if it is essential to utilize this oil to meet the immediate demand, no doubt means will be found even if they are uneconomic.

3. There is a worldwide shortage of heavy crude oils of the type which can be converted into residual fuel directly, or with minor processing. This is caused by retarded development of proven reserves during the war and material bottlenecks since. The proven reserves are adequate and facilities for converting this type of crude to residual are available. Efforts are continuing to increase the productive capacity of those fields, but not much can be accomplished before the end of next winter because of equipment shortages and delays in deliveries.

Taking these factors and others into account and analyzing data on existing capacity, it is our opinion that the maximum refining runs which can be expected in Districts 1, 2, and 3 in the 12-month period under consideration is about 4,100,000 b/d. Increasing runs to this level will involve utilization of a large amount of obsolete equipment and costly tank car movements of crude. With the present price relationship between crude and products, some out-of-pocket losses on the marginal operations can be expected. This rate would exceed the actual runs in the previous period by 217,000 b/d, or 5.6 percent. This is sufficient to meet the estimated demands for prime products, on the assumption of a minor business recession. However, these maximum runs would be slightly inadequate to meet both domestic and export demands, based on the present level of business activity, unless residual yields can be reduced and prime product yields increased. There is no definite indication that this can be done, as the yields last year were minimum with existing equipment (except for special production for the Navy in the second quarter) and there has been no indication that new facilities designed to reduce output of residual can be completed before the middle of next year.

Distribution Problems

There is a question, therefore, if the industry . . . in meeting the full domestic demand . . . can still satisfy the full export demand for prime products through next winter. While it is not expected that the final consumer will suffer if maximum refining operations are maintained, many oil companies may be in for some real headaches in planning their operations and distributing their products.

It will be noted that the previous discussion ignored the question of balancing residual supply and demand. The balancing, if it can be achieved, will have to be done by imports, just as it has for many years. The only difficulty is that while in prewar, and even war years, a large surplus productive capacity was available in the Caribbean and Persian Gulf, there is no surplus today and none is expected for several years at the earliest, unless there is a substantial decline in shipping and industrial activity. It is doubtful if the import rate of heavy crude and residual during the past 12 months can even be maintained because of the rapidly increasing foreign demand. If there is a moderate business recession, residual demand will probably fall off to the level of minimum domestic byproduct output, plus maximum available for importation. If business activity continues at its present level, it is possible that consumers' desires may exceed availability by a small margin.

TABLE 3

U. S. Industry Supply Situation
April 1, 1947-March 31, 1948
(Thousands of Barrels Daily)

	Districts 1,2 & 3	Districts 4 & 5	Total U.S.
Crude Oil Requirements			
Crude Runs to Stills	4,100*	950	5,050
Crude Exports	97	18	115
Crude Direct to Products	18	59	77
Crude Used as such and Losses	33	9	42
Crude Stock Increases	....	17	17
Total	4,248	1,053	5,301
Crude Oil Supplies			
Domestic Production	3,972†	1,079	5,051
Imports (based on previous twelve-month period)	250	....	250
Net Crude from District 4	26	(26)	....
Total	4,248	1,053	5,301

Increased product availablity over previous twelve-month period assuming same imports no product stock change, and 20,000 b/d additional natural gasoline East of Rockies.

Thousands of Barrels Daily	233	64	297
Percent of total Demand in Previous Period	5.3%	6.2%	5.4%

* Estimated maximum considering type of crude available and transportation bottlenecks. This is above the economic capacity by about 100,000 b/d.
† This is believed to be within M. E. R. but only if considerable West Texas is moved by tank car.

TABLE 4

Estimates of United States Petroleum Supply and Demand
(Thousands of Barrels Daily)

	Actual 1946	Estimated 1947	Estimated 1951
Demand			
Domestic	4,907	5,199	6,025
Export	414	419	250*
Total	5,321	5,618	6,275
Stock Change	+119	+ 39	....
Total	5,440	5,657	6,275
Supply			
Domestic Crude Production	4,749	4,914	5,166†
Nat. Gasoline & Condensate	321	340	400
Synthetics	....	....	10
Imports	370	403	699*
Total	5,440	5,657	6,275

* The exports are based on estimated shortage of refining capacity in the foreign circuit plus tributary crude exports If export requirements are lower, the import requirements would be correspondingly lower.
† Estimated M. E. R. production.

Our company is doing everything possible to import the maximum of residual and heavy crude. We will continue to do so as long as the demand exists. These imports are in full accord with Jersey's publicly expressed import policy.[1]

These imports cannot be replaced from domestic sources. This statement is not based on statistics or guesswork. Offers are being made in the domestic market to buy all available residual or heavy crude convertible to residual which can be readily moved to the point of consumption. The results are practically nil. The domestic producer and refiner, therefore, make the above statement themselves in the most exacting of all forums—the market place.

I am stressing this point because we feel that present and projected imports are essential to meeting the public's requirements, which should be the primary consideration of everyone in the industry.

Looking ahead to 1951, Table 4 shows our estimate of the probable situation. We expect domestic production to increase by elimination of pipe line and refinery bottlenecks on West Texas crude and by considerably increased findings in some states, relatively stable production in others, and declining production in only a few areas.

However, increases in efficient U. S. production may not develop as fast as the estimated demands. If this turns out to be the case, some increase in imports will be required to supplement domestic production. The 1951 increase over 1946 is estimated to be about 330,000 b/d, principally residual and heavy crudes. This is equivalent to 5 percent of the total U. S. demand. There is considerable doubt if any more could be made available economically even if needed. New refineries in Venezuela and Canada are expected to absorb most of the increased production which can be expected in Venezuela over the next few years. The new Middle East crude received by pipe line in the Mediterranean is scheduled for new refineries in the Eastern Hemisphere. However, even with increasing foreign demands, some additional residual may become available for import from the new foreign refineries which will come into operation between 1949 and 1951.

It will be noted from Table 1 that more crude running capacity will be required in the U. S. In addition, a large amount of construction will take place to obtain more profitable yields from crude. An attractive return on investment can be obtained by installing refinery equipment to further reduce residual output, with corresponding increases in gasoline and heating oil yields. This will have the effect of utilizing domestic crude for the most profita-

SCOPE OF *Editorial Coverage!*

ALTHOUGH we have considered the matter for a long time, changing the name of The Oil Weekly wasn't an easy decision to make. We had to reckon with our own sentiment for the name under which the magazine has grown in leadership for 31 years . . . a name that has made thousands of friends throughout the world oil industry. The reasons for changing the name of The Oil Weekly to WORLD OIL are reflected by important developments within the industry itself.

The increasing scope and tempo of oil operations on a world-wide basis is obvious to anyone who has studied the industry's growth. Current expansion of world oil activity surpasses even the most liberal forecasts made at the close of the war. The same can be said of domestic operations, but together they combine to give a WORLD OIL aspect which is most important.

There may have been a time when oil men in the United States or any other country could ignore what was happening in the rest of the world, but that time has passed. What happens in the United States affects oil outside of the North American continent, and what happens abroad has a direct effect on domestic oil affairs.

During the past few years, The Oil Weekly has given a great deal of attention to oil outside the United States without minimizing its extensive U. S. coverage. Whenever possible editorial material has been handled in such manner as to show the effect of world happenings on the oil man solely concerned with domestic oil affairs.

With all this in mind, we believe that The Oil Weekly should have a title that describes adequately the changing conditions in its industry, and the activities and interests of its readers.

So with the July 7th issue, The Oil Weekly changes its name. We believe you will share our enthusiasm for the new, more fitting title, WORLD OIL.

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ble products and leaving the balancing of supply and demand on the lowest priced product to imports, as well as to competitive forms of fuel—such as gas and coal. Which will get the business will depend on location, availability, consumers' desires, etc. We have assumed that in all areas not tributary to foreign supplies, gas and coal would fill the gap created by reduced residual yields. In any case, the domestic refiner will have an assured outlet for the relatively small amount of residual he cannot convert to other products.

Five-Year Forecast

To summarize the estimates, we expect a total demand increase of 2,100,000 b/d in the five-year period, 1,100,000 b/d in the U. S. and 1 million b/d in foreign areas. The new production required to meet this demand is 1,950,000 b/d. This will be obtained, we believe, by increased crude and natural gasoline production in the U. S. of 500,000 b/d over 1946, and 1,450,000 b/d from increased production outside the U. S.—divided roughly 450,000 b/d in the Western Hemisphere and 1 million b/d in the Eastern Hemisphere.

The longer-term situation cannot be estimated with any degree of accuracy. There are too many variables, of which costs and prices are among the most important. Natural gas and coal are now competitive with crude oil as a source of heating fuels, but may become competitive as raw materials for conversion to gasoline and other products. What effect they will have can only be guessed today. However, the petroleum industry will continue to prosper if it remains progressive. By "progressive" I mean the continued development of new methods to reduce costs so as to remain competitive with other fuels and raw materials and to provide the public with products at prices which it considers sufficiently attractive so that it will continue expanding the uses of petroleum.

Long term speculation is interesting and sometimes instructive, but if first things come first, the main problem, as brought out previously, is to do everything possible to meet the expanding demand of the next few years.

References

[1] Address by John R. Suman before Texas Mid-Continent Oil & Gas Association, November 9, 1945.

Gas Conservation Case

The Texas Supreme Court will hear arguments on June 18 in the suit against the Texas Railroad Commission relative to its order providing that no oil should be be produced from the Seeligson field unless all gas produced incident thereto is utilized for legal purposes. Operators won a trial court restraining order against enforcement of the order.

Training of Oil Company Employes

• CONTINUED FROM PAGE 35

is another subject and will not be discussed at this time.

Once the employe has mastered the technique of performing his job, he is ready for upgrading. Much of the material for his upgrading will be found in the job analysis under the column headed "Technical Information." There are two methods in which this may be done. If there are several employes working at the same type of work, the supervisor or other appropriate person can save time by giving the instruction to the group. It is necessary that the instruction be well-planned and presented. The time required would vary according to the nature of the job and the experience of the employes. Where it is not practical to give the instruction by groups, it is necessary that the supervisor plan to instruct each employe individually.

Another type of upgrading training is the staff meeting. In this case the supervisor may arrange, at regular intervals, for a meeting with his group of employes to discuss operating problems, technical information, safe practices, company policies, and related subjects. Again, in order to be successful the supervisor must be trained to do this job.

Supplemental Training

This type of training is intended to include that which is in addition to the training actually required for the successful performance of a job. There are many opportunities for the industrially employed individual to further his education. Among these are courses offered by colleges and universities, business colleges, public schools, and correspondence schools. There are others.

An employe who is interested in self-improvement should receive encouragement. There should be some provision on his personnel record for recording courses successfully completed. There isn't much incentive for an employe to improve himself if his boss is not interested.

Some companies recognize the value of this type of education and encourage employes to participate in various programs for their self-improvement by reimbursing the employe for a part of the cost of such instruction where the instruction is related to the employe's job. This is a concrete way which management has of telling the employe that it is interested in his efforts to improve himself. Further, it provides a definite procedure for obtaining information and recording the employe's accomplishments in his personnel file. Management profits from such a program by having employes who are learning more about the job which they now hold or a higher job and the employe profits through promotions resulting from his greater value to his employer.

Conclusions

It will be seen that the responsibility for training, regardless of the type or quality, rests with management; also that effective training requires the understanding and active participation of all levels of supervision. In order to operate a well-organized and planned employe training program, it first is necessary to develop supervisors who are capable of doing an efficient training job. The supervisor's job, regardless of his level, is considered to consist of three major parts:

1. Management,
2. Instruction,
3. Supervision.

Experience has proven that as a better job of instruction is done, less time is required for supervision, and more time is made available for management and planning. The money is made by planning. It is evident, therefore, that before an employe training program can be effective, supervisors must either have or acquire the ability to train employes, effectively supervise people and plan or manage their respective division or unit of operations. Organized training is justifiable financially through the reduction of turnover, reduction of accidents, improvement of employe morale, greater employe interest in his job, and greater productivity per employe.

WAA Prepares to Sell Surplus Greases, Lubes

The War Assets Administration is preparing to dump about 2,750,000 pounds of surplus petroleum greases and gear lubricants on the market at prices ranging from four to ten cents per pound.

WAA officials said the products are of high quality, adaptable for use in automotive, industrial and marine maintenance, and will be offered to priority claimants adn commercial users, including exporters, in the original packages.

Sales will be made on an "as is" basis in lots of not less than 440 pounds, except where the inventory of any item is a smaller quantity, from various regional offices where the products are being stored, f.o.b. storage location.

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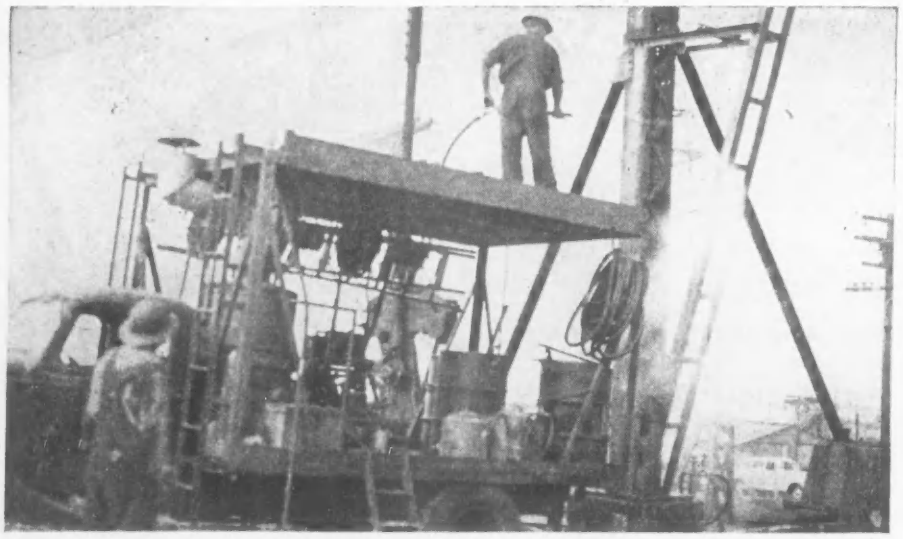


What normally would be the flat roof over the truck bed serves as a platform for providing better access to elevated equipment, at the same time shielding the working units of the special truck from fluids and dirt dislodged by the high-pressure spray.

★

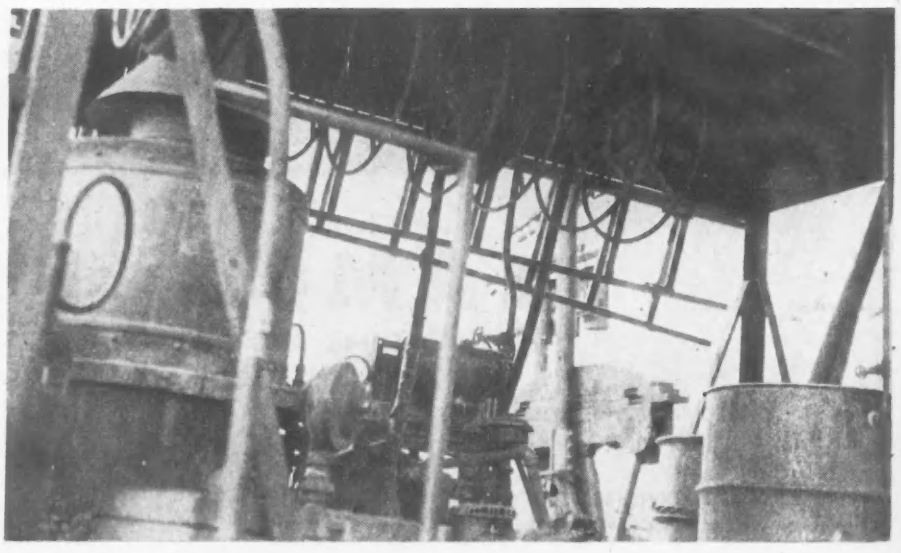
Supported close up under the upper deck are the reels which carry the various hoses used for carrying the chemical stream to the job, with the flash-type boiler located just behind the cab, with an offset stack to carry fumes above the working floor level.

THE task of cleaning producing well surface equipment preparatory to repainting can be facilitated by the use of a truck that houses all the necessary cleaning equipment. A Pacific Coast oil company has equipped a truck for this purpose.

The equipment (heater, pumps, engine and chemical tanks) has been set on a steel sheet flat flooring. To provide facilities for removing accumulations of oil and dirt from equipment high in the air, an upper deck has been installed. This provides a place for workers to stand while operating steam nozzles.

The heater is placed immediately back of the cab of the truck. The chemical tanks are oil drums attached permanently to the truck bed, and are connected with both the heater and the distribution header. The latter is fastened to the under side of the upper deck flooring, and includes four reels with sufficient length hose. Although four men can be employed, the usual number is two. One supervises the operation of the machinery and the other operates the cleaning nozzle.

Under average conditions, a two-man crew can completely clean two pumping units daily.



R. C. Gwilliam Will Head API Publicity Group

R. C. Gwilliam, vice president of Ohio Oil Company, has accepted the chairmanship of the oil industry public relations committee for the Central Gulf Coast section.

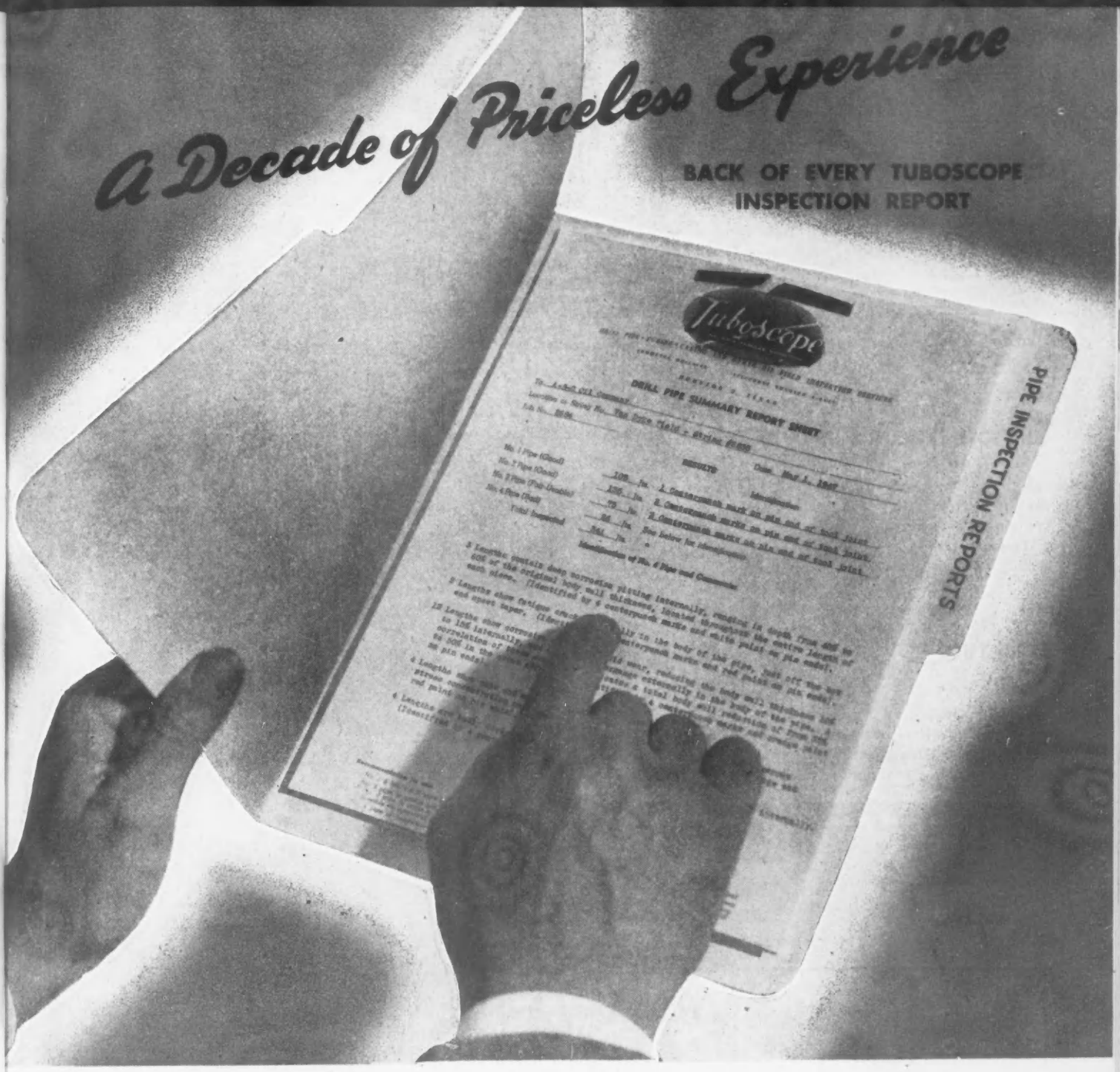
This section, which includes the city of Houston, Harris County, Texas, and the immediate Houston trade territory is one of 27 sectional groups now being organized under the general chairmanship of Fred F. Murray, committee chairman for District 3. The district comprises the states of Texas, New Mexico, Louisiana Arkansas, Mississippi and Alabama.

A progress report on the work of the committee thus far was presented by Murray recently at a meeting in Houston. John P. Morgan of Dallas, vice chairman for District 3, and Warren L. Baker, editor of THE OIL WEEKLY, and chairman for Texas, were present.

Subcommitteemen will be appointed shortly, Gwilliam announced following the meeting.

Meanwhile, Oklahoma and Kansas were set up as a separate area in the nation wide public relations program at a recent meeting in Tulsa.

Robert Pielsticker, Skelly Oil Company, Tulsa, was elected district chairman, with W. T. Payne, Big Chief Drilling Company, Oklahoma City, as vice chairman for Oklahoma. Lloyd Pickerell, Wichita, Kan., was named vice-chairman for Kansas. W. G. Skelly, who has served as general chairman of the committee, presided at the organizational meeting.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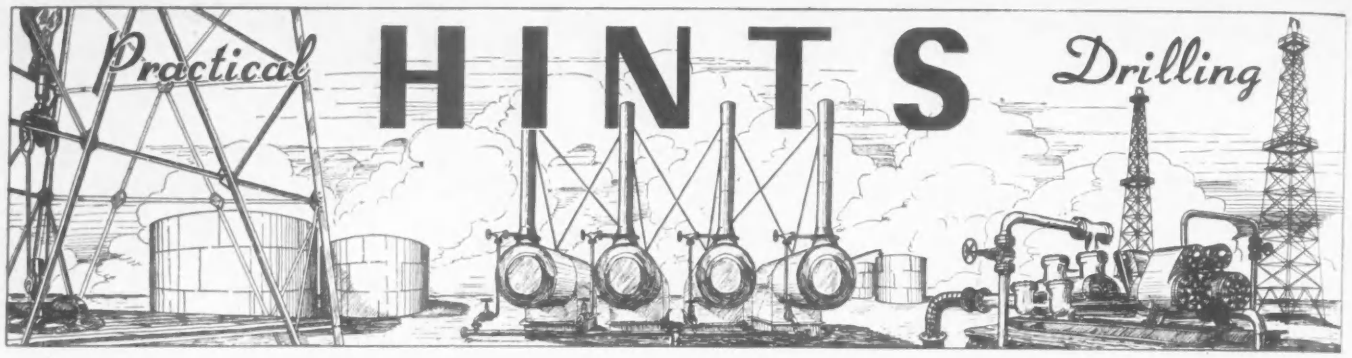

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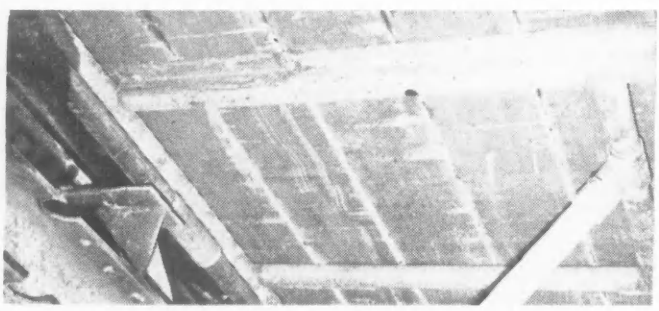
How To—

Support Engine Run-Around Platform with Simplified Pipe Framework

By building the run-around for the drilling engine on a framework of 2½-inch pipe, with the inner side supported in sleeves of 3-inch pipe welded to the top of the substructure itself, one contractor provides a floor which moves with the unit, and which is held in place by a series of pipe sockets. These sockets are set on cross members of the pipe framework so that it is necessary only to lift a section on its hinge, align a prop with the socket, and slip a pin through matching holes in the two in order to lock the supprot against possible dislodgement.

SUB-STRUCTURES



The upper angles of the substructure are notched to accommodate the framework when folded flat for transportation, with the entire floor removable by taking out the bolts which hold the guide members.

The method of bracing the flooring in the operating position secures both ends of the heavy pipe braces in sockets which, in turn, are held in a manner which prevents disengagement. The pins used are only as additional precaution, instead of taking the weight of the platform, as in most systems where pipe braces are used to support the platform frames.

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How To—

Speed Cable Tool Drilling With Handy Tool Rack

Installation of a simple tool rack on one corner of the rig floor will go far toward elimination of the congestion and disorderly appearance of derrick floor edges and corners of a cable tool rig.

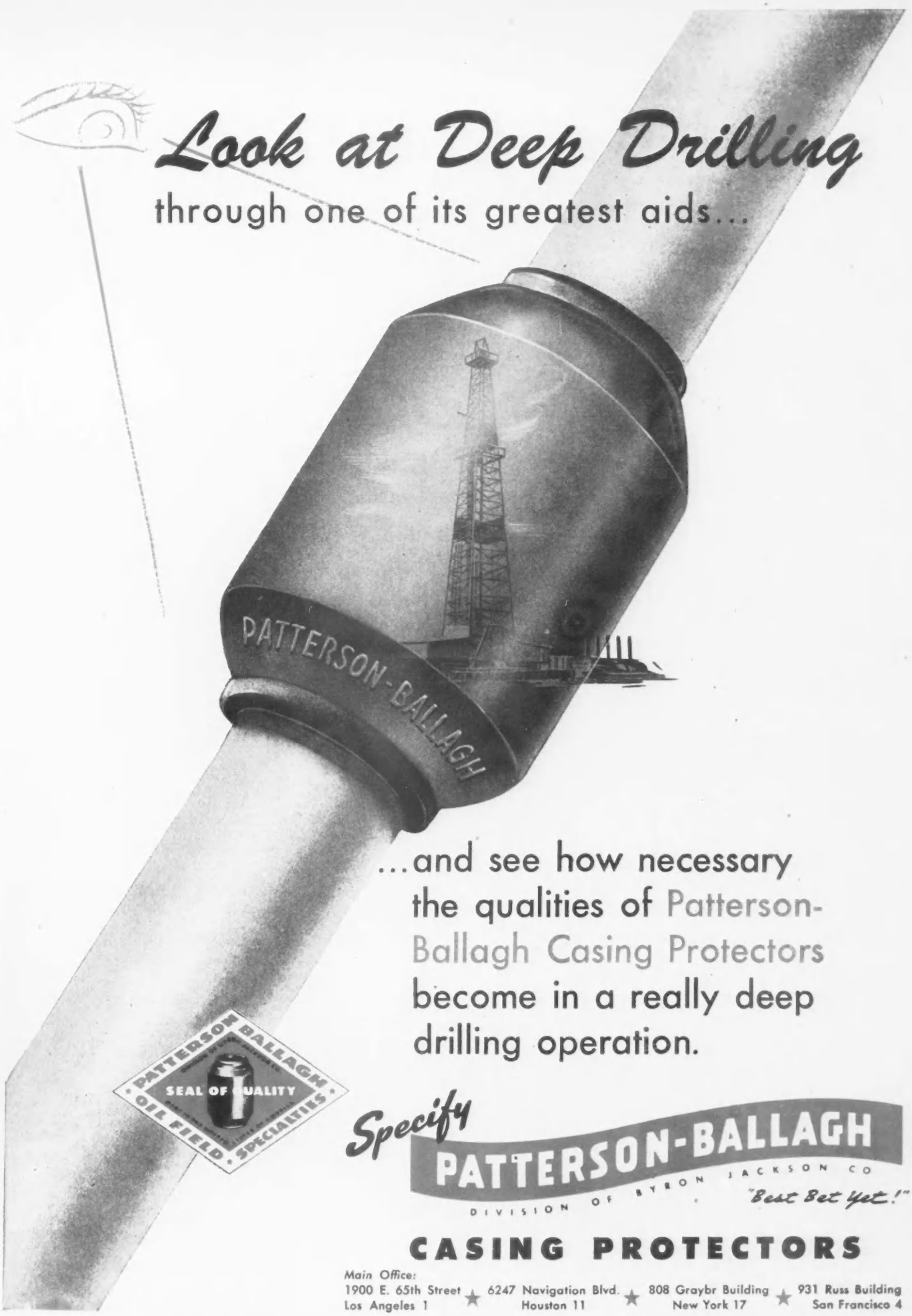
TOOL STORAGE

One cable tool contractor employs a well-braced rack made of salvaged pipe materials which may be lag-screwed to the flooring, the length of the rack extending underneath and parallel to the overhead craneway. Bits, jars and fishing tools are easily racked, each tool resting between a pair of long bolts extending out horizontally and across which is looped a light chain to prevent the tools from accidentally falling forward.

Such a rack not only speeds up selection and picking up of the proper tools, but aids in the disposal of them when taken out of use. Lifting chains or lines are more easily disconnected when tools remain upright, contrasting with the usual difficulties encountered when the heavy equipment is laid down flat on the floor amid other fittings.

Look at Deep Drilling

through one of its greatest aids...



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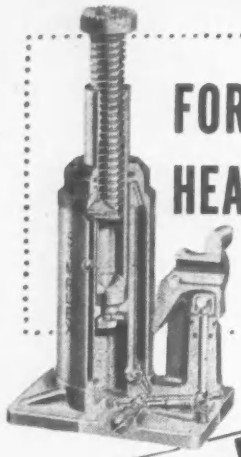

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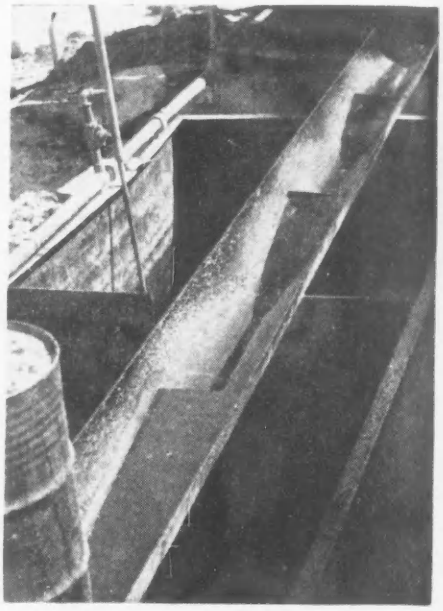
How To—

Reduce Fluid Velocity in Oil-Base Mud Ditch

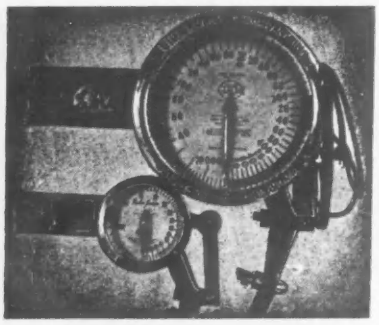
MUD HANDLING

In order to speed the settling-out of cuttings from oil base type mud in their steel half-round mud ditch, one company operating in the Rocky Mountain area employs shallow steel baffles, welded at regular intervals along the length of the trough as shown. Located on the down-stream side of the shale shaker, these baffles serve to retard the velocity of the fluid as it travels toward the end tank where it is taken up by the suction line. In slowing down the fluid stream, particles too small for the shaker to remove are dropped out, thereby improving the quality of the mud.



Of interest in the tank setting shown is the method employed for protecting the mud, generally more costly than regular mud, from sun and rain. It is a sectionalized portion of a peak roof, having a short overhang or awning-like projection over the open side of the tank The unit is made of used two-inch pipe and corrugated iron and is removable for placement over other mud tanks or shifting from one side to another as rig lay-out and location may require.

LINE SCALES



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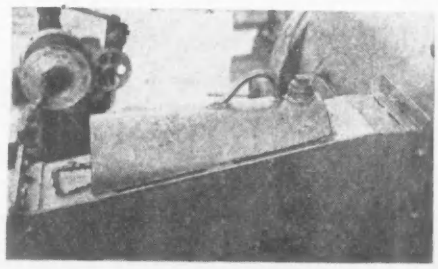
Oklahoma City, Oklahoma

How To—

Lubricate Rotary Chain With Automatic Feeder

LUBRICATION

When an oil pump is used on the draw works to pump lubrication over the bearings and chains, it is impossible to lubricate the engine and rotary chains because the returns will not gravitate back to the pump sump. A streamlined vessel that may be used is shown.

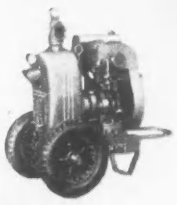


It is made from a ten-inch nipple which has been cut off at an angle and a quarter-inch plate welded over this side and the two ends. A quarter-inch connection is welded into the lower side of the larger end and a two-inch collar welded into the top of the thin side to serve as a filler plug.

A pet cock attached to the quarter-inch connection provides a line to the rotary chain to conduct the lubricant. An eye welded to the top of the vessel permits a catline to be used to raise the hood. The vessel is welded to the top plate of the hood and the quarter-inch pipe run through a hole in the hood.

In operation, the vessel is filled with oil at the beginning of each tour.

Sterling
PUMPS • HOISTS • LIGHT PLANTS



DEPENDABLE
RUGGED
SIMPLE
•
SAVE MONEY
SAVE TIME

STERLING QUALITY

For more detailed information see pages 3620 and 3621, Composite Catalog.

STERLING
MACHINERY CORPORATION
405-13 SOUTHWEST BLVD. KANSAS CITY 10, MO.

"Don't get caught with your lines down!"

RIG UP WITH . . .

TIGER BRAND AND KEEP DRILLING!

Play Safe!

KEEP AN EXTRA REEL ON HAND

IMMEDIATE DELIVERY

When you're rigged up with TIGER BRAND Excellay Preformed, you're all set to make hole as deep and as fast as necessity demands . . . for these rotary lines have the strength, toughness and flexibility you need for profitable drilling.

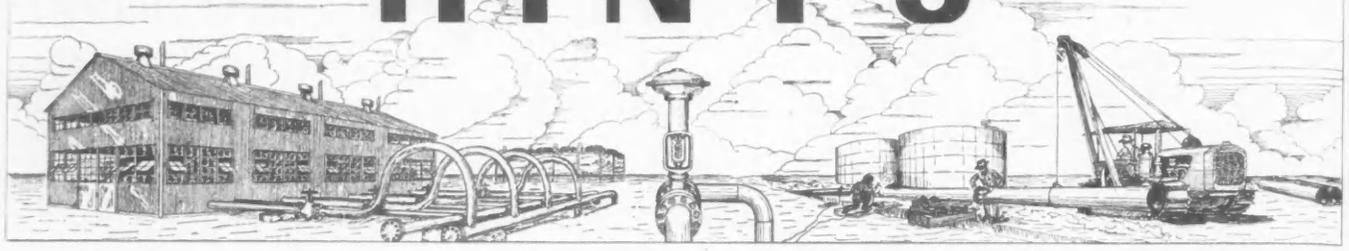
Made of high tensile Monitor Improved Plow Steel wire . . . to close tolerances and unvarying quality standards, U·S·S American TIGER BRAND Excellay Rotary Lines offer the highest resistance to bending fatigue and abrasive wear. They run true in sheave grooves and wind snugly on the drums. Furthermore, they are easier, safer to handle . . . because broken wires do not stick out jaggedly to injure handlers.

With rotary lines like these once more available in quantity, is it any wonder that the BIG Demand is for TIGER BRAND!

AMERICAN STEEL & WIRE COMPANY
Cleveland, Chicago and New York
COLUMBIA STEEL COMPANY
San Francisco
United States Steel Export Company, New York
UNITED STATES STEEL

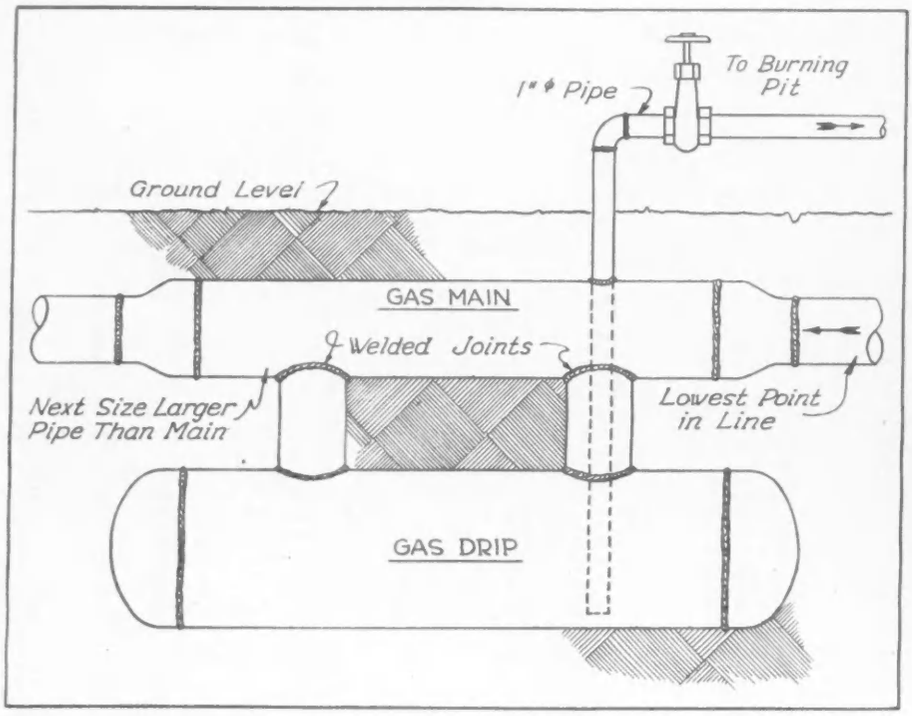
The BIG Demand is for Tiger Brand

Practical HINTS Pipe Line



$10.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

How To—
Install Trouble-Free Gas Drip



GAS DRIPS

Condensation of natural gas in trunk or transmission lines can be a headache to the pipeliner. The installation of a gas drip at some point in the line where the liquefied gases are most likely to accumulate has helped solve this problem. Illustrated is a practical method of constructing an efficient gas drip to provide trouble-free maintenance. One Kansas company has standardized their residue gas drips on this model which has given a minimum amount of trouble since its installation.

Designed to eliminate all threaded connections below the ground, this type construction minimizes the danger of connections breaking out when the pipe line shifts due to contraction and expansion with temperature changes. It is placed in the lowest point along the main gas line, which point is most favorable for the accumulation of condensed gases. The liquids flow unobstructed into the gas drip which has sufficient storage to remove the liquids from the line for long periods. Periodically, it is necessary that the bleed-off valve be opened to permit the line pressure to force the liquid from the gas drip into the burning pit or to other means of disposition. The enlarged section at the drip compensates for the obstruction formed by the vertical one-inch bleed pipe piercing the line. In this manner, the normal flow of gas through the main is not affected.

Various sizes of drips can be made up in the shop and swedges welded to each end to the next smaller size of pipe to which the drip is intended. Connections to the drip are made by welding short nipples of the size corresponding to the line. A one-inch bleed-off pipe is placed through the center of one of the short nipples and welded around the outside on top of the drip as illustrated. After fabrication, the drip is sent to the field for installation.

How To—
Remodel Regulators

REGULATORS

To eliminate the packing gland between the diaphragm and the regulator body and thus cut down friction and leakage, one company has remodeled all of their back-pressure regulators. The body of the old regulator is first turned upside down and backwards so that the inlet is on the outlet side and the valve closes while traveling down instead of up. Threads to receive a two-inch pipe collar are cut on the outside of the packing gland circumference and the plate replaced on the top of the valve body. Next, the hole in the bottom of the regulator case is reamed out and two-inch pipe threads cut in it to receive a two-inch nipple which screws into the two-inch collar. The valve is then placed in the body of the regulator through the bottom, with the threads of the stem even with the center of the diaphragm case with the top half not yet in place. The diaphragm plates and diaphragm are then placed on the stem in the usual manner with a nut on the top and bottom, and the diaphragm centered in the case with the usual allowance for slack

NEW EQUIPMENT LITERATURE

FOR ADDITIONAL INFORMATION, USE MAILING CARD INSERTED OPPOSITE THIS PAGE

1—New Type Separator

The problem of removing dust from engine intake air was a threat to this country's North African campaign in the past war. The successful solution to this situation brought about a new principle in cleaning foreign matter from air and has found effective application in removing moisture from natural gas. Laboratory and field tests have shown that high efficiencies have resulted in taking out not only entrained liquids, but other foreign matter such as sand from natural gas under high and low pressures.

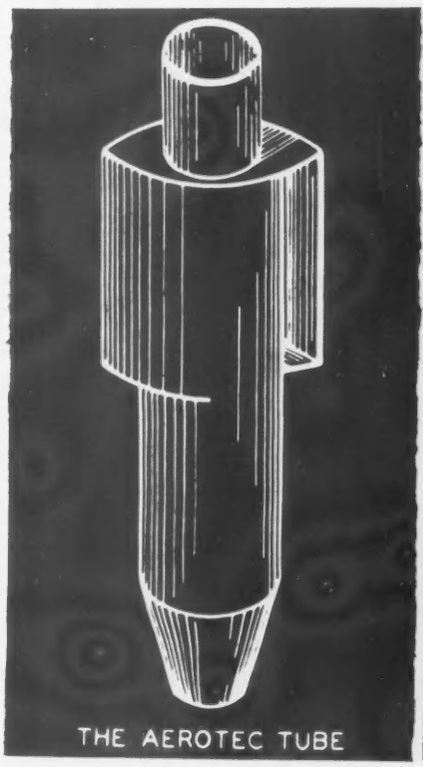
Outlined is one of the basic elements of the separator. It is merely a tube about two inches in diameter housed in an outer shell with an overall length of approximately 18 inches. These dimensions, however, are governed by the requirements of the installation, and may be reduced.

The tube extends almost through the shell and is sealed around the tube at the top to permit part of the tube to protrude beyond the shell. The lower section of the outer shell is coned and not sealed around the tube at the bottom. Intake of the moisture-laden gas is through a tangential port shaped in the form of an involute around the inner tube. Gas entering this involute begins to swirl at high velocity around the inner tube. Centrifugal force causes the heavier elements to drop out of the gas which is exhausted through the top of the two-inch inner tube. The moisture and foreign matter are discharged through the cone opening at the bottom.

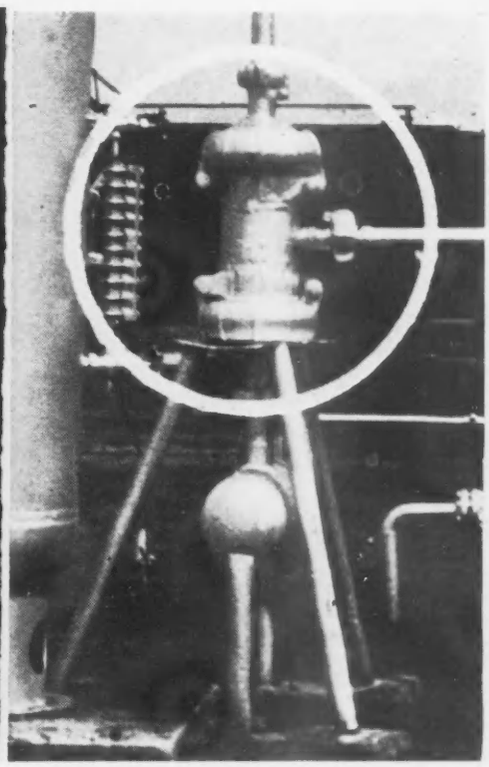
Shown in the photograph is an installation in a Southwest Texas gas field. The separator consists of two such elements as described above, and housed in a pressure-tight casing. This particular unit was designed to operate at 2000 pounds per square inch pressure. Although the unit is extremely small, it has an operating capacity of two million cubic feet of gas per day. Resistance through the unit, or the differential pressure is about 1.3 psi.

Gas enters at the connection shown at the right, while dry gas is discharged through the connection at the top of the unit. Moisture removed from the gas is collected in the chamber located below the unit, which may be drained when necessary either automatically or manually.

Capacity of this type separator is governed, according to the manufacturers, by the number of single elements employed, and a wide range of conditions can be met, depending upon the requirements. It is also claimed that the unit will remove sand from natural gas along with any moisture with high efficiency. Applications for which this type separator is particularly adapted are; individual gas wells or a lease containing several gas wells, conditioning natural gas for sale or commercial uses, as a means of protecting natural gas engines from excessive wear due to entrained moisture and grit in the fuel supply, and cleaning exhaust steam for reuse in boilers, and others.



THE AEROTEC TUBE



J. A. Rossiter, P. O. Box 1095, Houston.

(Check item 1 on postcard for more information.)

2—Lightweight Swivels

A new series of lightweight water swivels has been developed by engineers and features a simplified packing arrangement with only two of the parts, including the packing ring, subjected to wear from the abrasive fluids.

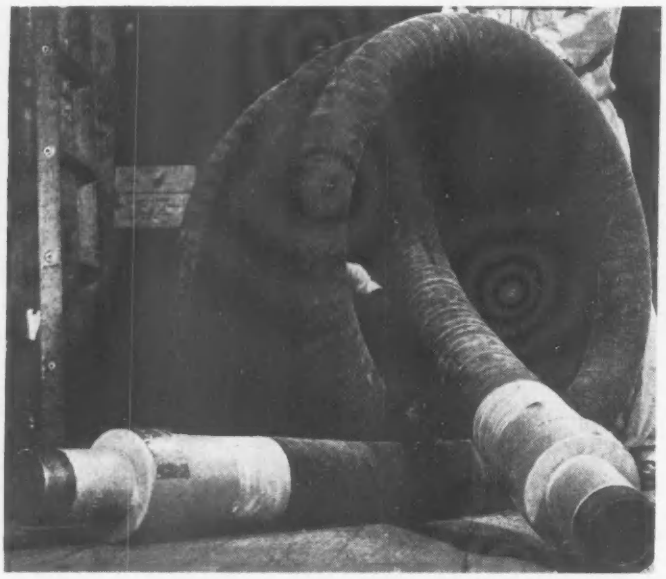
These new swivels require packing about once every four months, the manufacturer claims, and this operation may be done in ten minutes time without disassembly of the swivel. The lower sub is backed off part way, the old packing ring removed, and a new ring inserted through the openings in the side of the swivel housing. The packing is located below the bearings and in event leakage occurs the slush cannot enter the bearing chamber.

These swivels are available in two sizes. Model S-1000, shown at right, is the two-inch swivel with a capacity of 25 tons, while Model S-985, at left, is the 1¼-inch unit with a capacity of 15,000 pounds.

Geo. E. Failing Supply Company, Enid, Oklahoma.

(Check item 2 on post card for more information.)

3—Rotary Hose



An entirely new rotary hose, known as Goodall "Flexo," is based on a new method of construction to give it high strength combined with increased flexibility. This increased flexibility is said to promise of increased service life by permitting the hose to withstand extremely rough treatment without damage. Flexibility of the hose may be illustrated in the photograph showing the hose being coiled in loops 30 inches in diameter without damage or measurable distortion. It is reported to withstand full test pressure with less elongation than earlier types. Loading racks for the new hose are not necessary, and its lighter weight makes handling even easier.

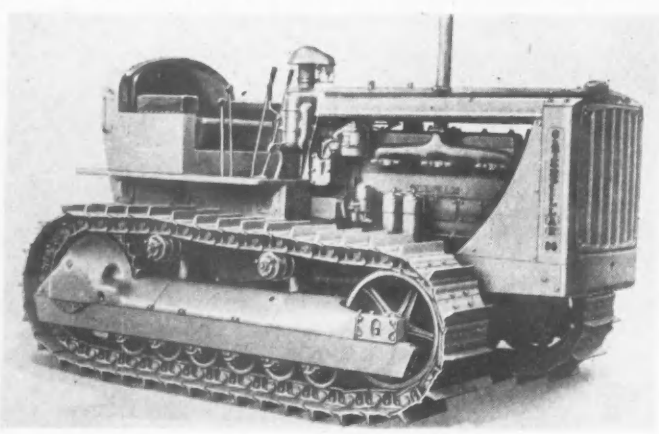
A new streamlined Barney coupling is used on the new hose. This coupling weighs one-third less yet retains its strength. The coupling is still the strongest part of the new hose. Worn hoses are repaired at a fraction of their cost by the manufacturer, and a trade-in allowance is made for the used Barney couplings.

Goodall Rubber Company of Texas, 1606 Maury Street, Houston.

(Check item 3 on postcard for more information.)

4—Diesel Machines

Production of two new diesel engines, two diesel track-type tractors and two diesel motor graders powered by these engines provide increased power, improved design, new and stronger materials. Included in the array of new machines are the four-cylinder D315 and the six-cylinder D318 engines, D4 and D6 tractors and Diesel No. 12 and Diesel No. 112 motor graders.



The D315 engine replaces the D4400 engine and the D318 replaces the D4600 engine in the "Caterpillar" line, providing one-third greater power output than the previous models. The power increases in the two engines are reflected in greater work capacity in the tractors and motor graders which they power.

The D315 engine has a maximum output, with radiator fan and full equipment, of 70 horsepower, while the D318 is similarly rated at 105 horsepower. Both engines are available as industrial units, electric sets and marine engines.

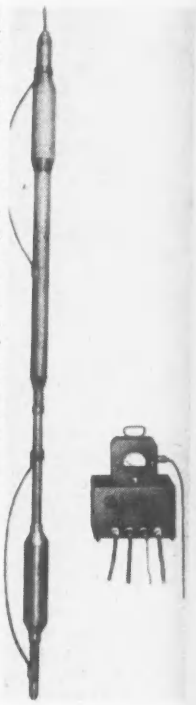
The D6 tractor develops 65 drawbar horsepower and 75 belt horsepower, an increase of ten horsepower over comparable figures for the previous model; while the D4 tractor, with 43 drawbar horsepower and 48 belt horsepower, offers a 20 percent increase in work power over the model it replaces.

Features of the engines are: One-quarter increase in bore, giving them a 4½-inch bore; a heavier, stronger crankshaft, with 36 percent larger journals (cross sectional area) and 30 percent larger crank pin bearings; individual inlet and outlet manifolds positioned on opposite sides of the cylinder head, allowing free flow through intake and exhaust manifolds, larger valves and high valve lifts contributing to fuel economy; oil-cooled, strut-type pistons of composite construction; oil pressure control systems to assure maintenance of proper oil pressures at the bearings even under extreme cold weather starting; solid aluminum alloy main and connecting rod bearings; governor equipped with anti-friction bearings throughout; more effective cooling of lubricating oil and water by mounting oil cooler core beside and flush with the water radiator core.

Caterpillar Tractor Company, Peoria, Illinois.

(Check item 4 on postcard for more information.)

5—Pipe Stretcher Indicator

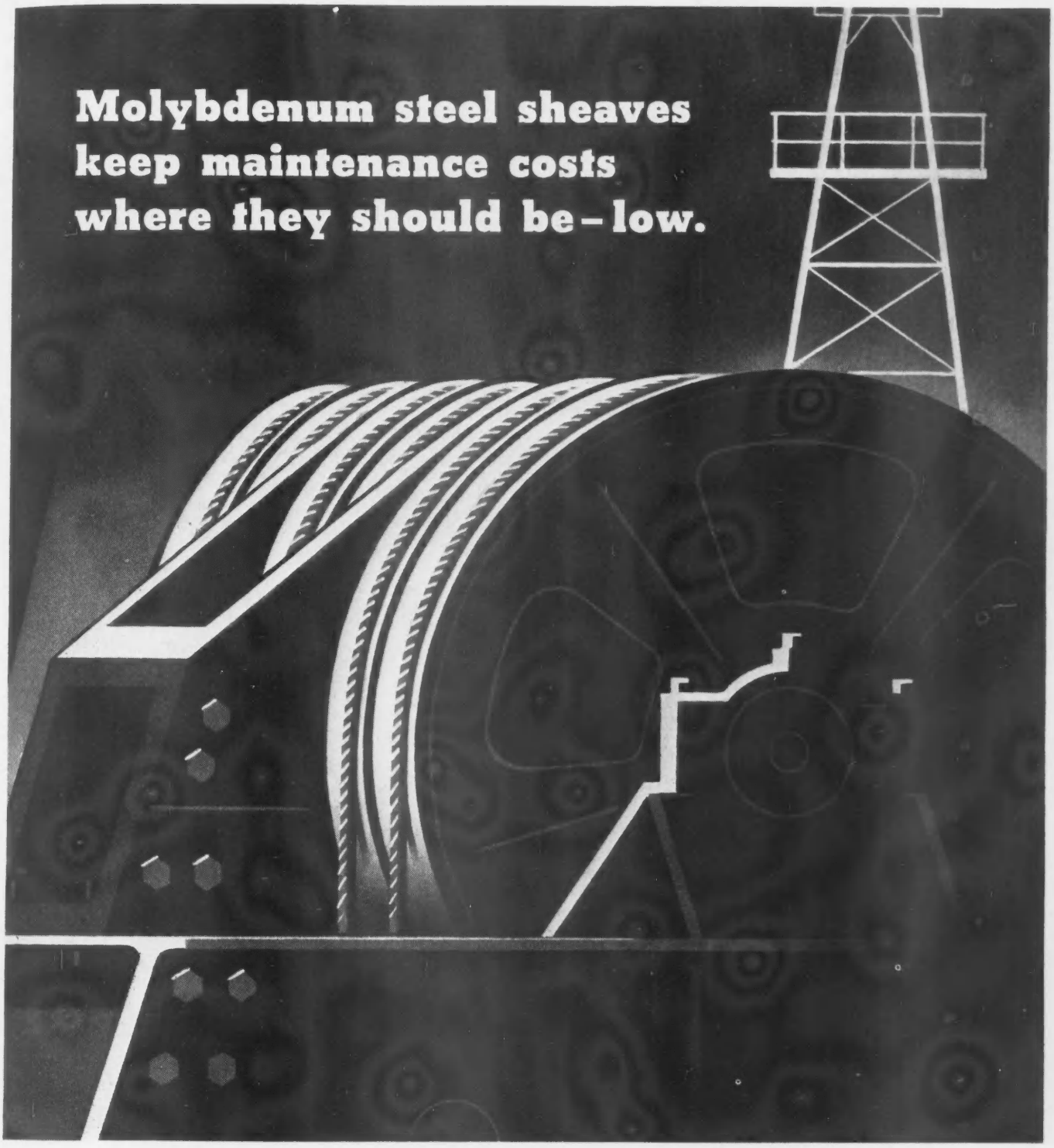


Exact location of points at which drill pipe, tubing, casing or liner may be stuck in a bore hole has been made possible by the recent development of a new oil well tool called the "Magna-Tector." It is primarily a device which determines the amount of stretch or absence of stretch in tubular goods. When drill pipe, casing, tubing or liner becomes stuck in the hole, application of this device will quickly indicate the transition point from no stretch in the pipe to normal stretch in the pipe . . . and in this manner, locate within one foot, according to the manufacturer, the depth at which the pipe is stuck. Where the pipe is held in place by the subsurface formations, little or no stretch is detected when a strain is placed upon the pipe. Above the stuck point, normal stretch is detected when the pipe is pulled.

The device consists of two spool-shaped electromagnets spaced approximately five feet apart on an eight-foot telescoping mandrel. Two bow springs located to span both magnets force these elements against the pipe wall to insure maximum effectiveness of the magnet. Made in two sizes, either 3½-inch or 1¾-inch, the tool is run in the hole on electric conductor cable. When the electromagnets are energized from the surface, they cling to the metal pipe. A strain placed on the pipe will cause it to stretch slightly if it is free, at the point where the Magna-Tector is located, and thus be indicated at the surface. If the pipe is stuck opposite the magnets, little or no stretch is indicated. A quick search beginning at the bottom of the pipe will determine just where the pipe is stuck, thus enabling the operator to save time in making the cut as well as salvaging much of the pipe. To insure accurate measurements the tool is calibrated periodically.

McCullough Tool Company, 5820 S. Alameda St., Los Angeles 11.

(Check item 5 on postcard for more information.)



MOLYBDIC OXIDE—BRIQUETTED OR CANNED • FERROMOLYBDENUM • "CALCIUM MOLYBDATE"
CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS.

Climax Molybdenum Company
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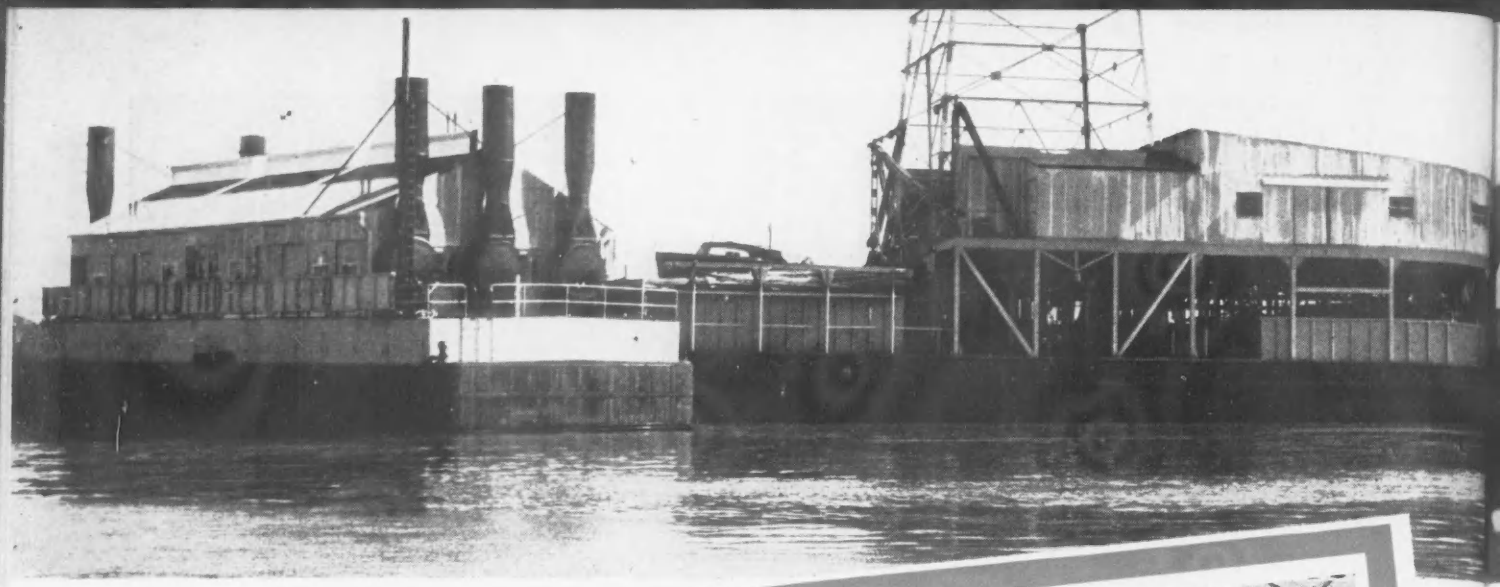
MOLY



5 LUCEY BOILERS

Huck and the crew are going to have plenty of safe, dry steam. It will be economical, too. And because Luceys require a minimum of maintenance there'll be plenty of time to try for those tarpon.

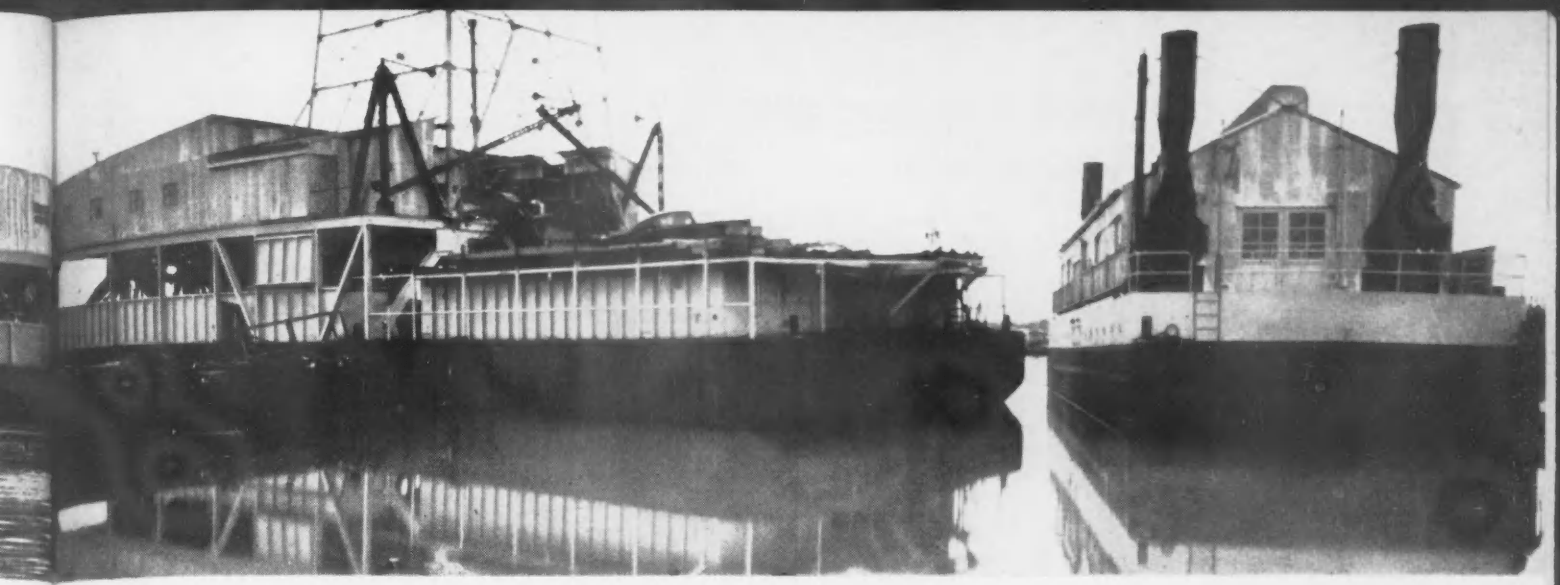
When it comes to fishin', there's no need for any oil man to fish around for good equipment. Always close by is your Jones & Laughlin Supply store, run as though you were the boss and it was your own warehouse. Note this attitude the next time you drop in, and how snugly the stock fits your needs.

JONES & LAUGHLIN SUPPLY COMPANY

Subsidiary of Jones & Laughlin Steel Corporation

TULSA, OKLAHOMA

J&L STEEL



Adventures ON A DRILLING-BARGE FLEET — *by* HUCK FINN

Boy, is this something! Tarpon off the starboard—good food in the galley—buried treasure below—OIL!

Me and Tom and the crew will sure have fun. Me and Tom is bunk-mates. No corn shucks for us this trip! Beds as soft as white clouds, 'lectric lights and fans and lots of things we didn't have when we sailed the Mississippi.

And have we got the machinery! The driller says we can dig a hole to China, if necessary. All the power for this stuff comes from the boiler barge, equipped with five big babies made by Lucey. There ought to be some racket around here when the machinery gets goin' and those five big Lucey boilers start fryin' and poppin' off. Me and Tom is eager to put out to sea. Got the fanciest office you ever seen. Radio, telephone and everything. Watch for us in the news, folks; we're going out to make oil history!

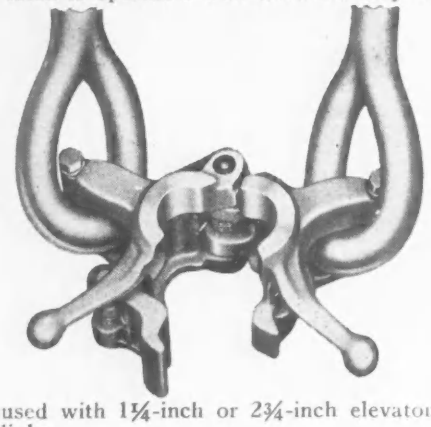
• • •

Like lots of other good oil country equipment, Huck, those Lucey boilers came from Jones & Laughlin Supply Company. They are fine, easy steamers, those Luceys, typical of the quality equipment we handle for every oil country need.

This drilling barge plant is the property of S. W. Richardson, Ft. Worth, Texas, and is being used for deep drilling operations off the Gulf Coast. The entire plant is in charge of C. E. Ratcliff, Marine Drilling Superintendent, operating under direction of J. E. Hill, General Manager of Drilling and Production.

6—Center Latch Elevators

The new type "CT" center latch elevators made from high-strength manganese-molybdenum steel have a capacity of 50 tons. For sizes up to 3½-inch, weight of the new elevators is only 53 pounds, while the 4½-inch sizes weighs only 64 pounds. Among the exclusive features of this class elevators is automatic spring-actuated opening when the latch is operated. The elevators may be



used with 1¼-inch or 2¾-inch elevator links.

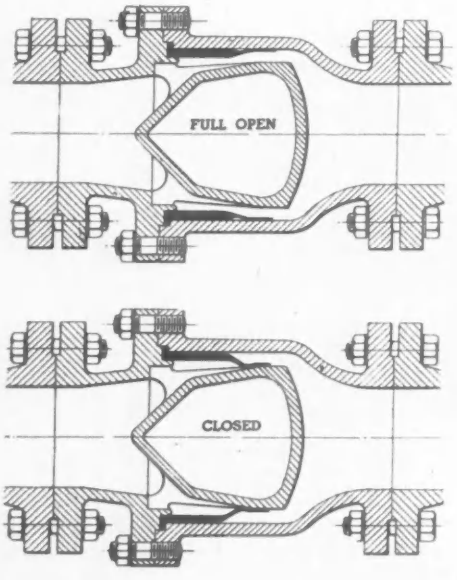
The automatic opening feature is said to permit the elevator to ride in a balanced position when empty, as well as facilitate getting the tool off the tubing, both for the derrickman and the men on the floor. The operating handles have been made long enough to provide ease of operation, the manufacturer states, and a pressure lubrication fitting on the main hinge pin eliminates difficult opening and closing of the tool. It is applicable to all tubing pulling and setting jobs.

Web Wilson Oil Tools Company, W. W. Wilson Bldg., Huntington Park, Calif.

(Check item 6 on postcard for more information.)

7—Check Valve

Embodying no mettalic operating parts this new line of check valves operates on low pressure differentials. They are available in sizes ranging from ½-inch to 12 inches.



One of the outstanding features of the "Chexflo" valve is its tough flexible tubular operating member, comprised of a thick load section, tapering down to a sensitive operating lip, which requires no differential pressure to effect positive bubble-tight shut-off. This tapered synthetic rubber lip freely expands to open, permitting unrestricted streamline flow. Due to its resilient elasticity it smoothly contracts to close on slack flow—prior to the start of back flow. The degree to which it opens or closes is in direct ratio to flow volume. In the open and closed position it is fully supported against extreme pressure or intensive impulse shocks by the inner walls of the valve body, and the cylindrical acorn-shaped core which it tightly encompasses. As it reaches shut-off position, flow velocity increases to flush the seating surface of any small particles. The resiliency of the flexible tube completely absorbs shock impulses.

Grove Regulator Company, 65th and Hollis Streets, Oakland, Calif.

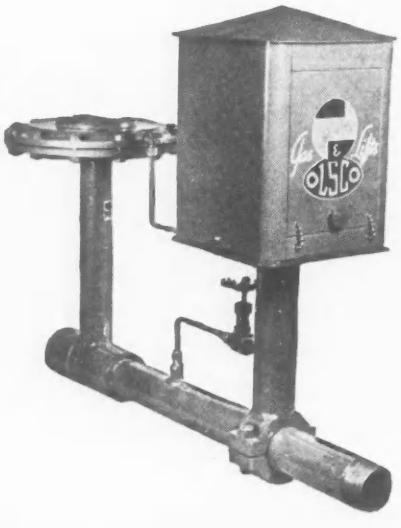
(Check item 7 on postcard for more information.)

8—Surface Controller

A new surface controller features greatly simplified controls for regulating frequency and length of gas injections, injection gas pressure and volume. The new controller contains a high-pressure regulator which obviates the necessity of a separate regulator for use on high-pressure gas lines.

A simple, dependable time-control clock governs the frequency of gas injections and an easily adjusted thumb screw determines the length of each injection. All controls, with the exception of the motor valve, are enclosed in a weather-tight steel hood and are easily accessible for adjustments and repairs.

A unique feature of the controllers is that they may be used as well purgers during twilight periods of flowing wells. When used for this purpose, the timing mechanism is removed; it is installed later when the wells go on gas lift and the controllers are used for regulating gas injection to the gas lift valves. The new controller can also be used as a pressure regulator in services other than gas lift.



Garrett Oil Tools, P. O. Box 182, Longview, Texas.

(Check item 8 on postcard for more information.)

Literature

9—Valve Cross Reference

The "Valve Cross Reference Chart" is a new 15-page booklet containing comparative valve tables for Chapman, Crane, Darling, Fairbanks, Jenkins, Kennedy, Lunkenheimer, Powell, Reading-Pratt & Cady, Walworth and Ohio Injector valves. Hundreds of valves are compared in this catalog which gives comparable valve type numbers for similar valves in various makes. Abbreviations used are defined at the beginning of the booklet, and included are brief descriptions of "OIC" valves and their corresponding catalog numbers.

The Ohio Injector Company, Wadsworth, Ohio.

(Check item 9 on postcard for more information.)

10—Control Devices

"Industrial Control Devices" is the title of Catalog No. 8302 which contains important and useful information on electric automatic control systems. Accurate and dependable industrial control devices and safeguards are fully described with complete schematic diagrams, dimensional drawings and photographs of the instruments, as well as specifications, range charts, etc. Among the electric controls described are temperature, pressure and humidity controllers; engine safety cutouts; float switches and low water cutoffs; protectoglo flame-electrode and photo-electrode; safety shutoff valves; modutrol and industrial control motors and motorized valves. Pneumatic controls described are temperature, pressure and humidity controllers, grad-U-motors and valves, and relay switches.

The Brown Instrument Company, Philadelphia 44.

(Check item 10 on postcard for more information.)

11—Metal Paint

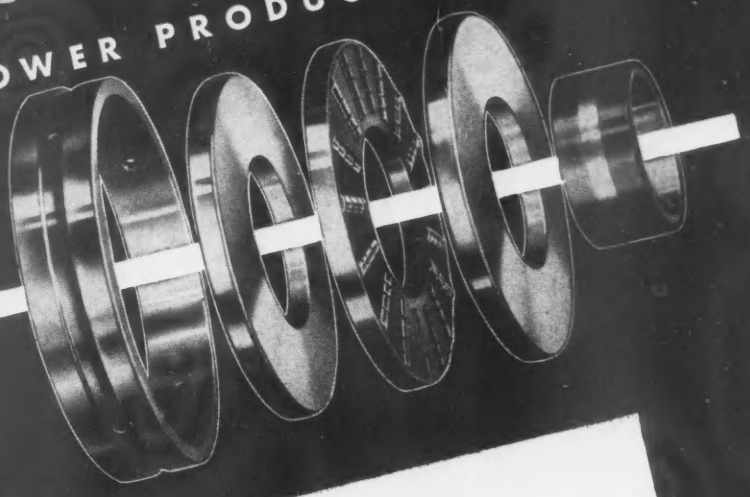
Technical Bulletin No. 101 is a recently-published, four-page brochure describing "Tuf-On P-70 Pri-Met," a new chemical prime coat for metals for maximum adhesion on brass, steel, tin, cadmium, lead, magnesium, zinc, bronze, aluminum and galvanized metal. The development, background and description of the new prime coating paint are discussed. Included in the descriptive matter are specifications, recommendations, applications and surface treatment before application.

Brooklyn Varnish Mfg. Co., Inc., 50 Jay Street, Brooklyn 1.

(Check item 11 on postcard for more information.)

HOW TO MAKE MACHINES DO MORE

. . . AT LOWER PRODUCTION COSTS



the answer...

ROLLWAY BEARINGS with *Right Angle* LOADING

the advantages...

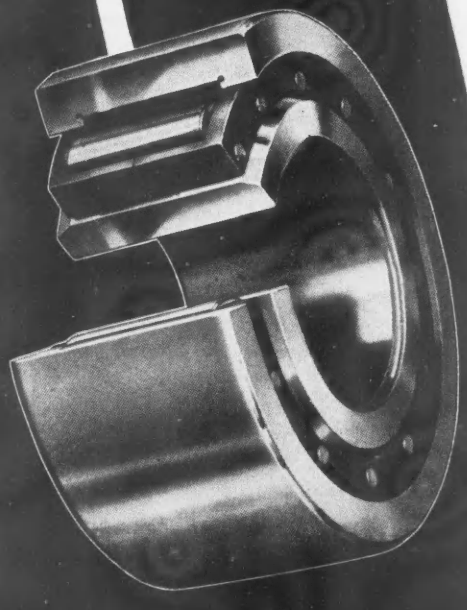
1. Solid cylindrical rollers of greater roller mass and uniform roller cross-section . . . greater resistance to shock loads and vibration . . . longer life expectancy under continuous heavy-duty service.

2. All loads carried at right-angles to the roller axis. No compound loads, no oblique loads, and no resultants of oblique loads can be brought to bear.

3. No wedging of rollers . . . no pinch out . . . less roller end-rub and wear-back . . . less rubbing friction.

4. Only pure radial or pure thrust loads can be imposed upon any single bearing assembly. Unit pressures per roller are substantially reduced.

5. Greater load-carrying capacity secured in a given dimension.



ROLLWAY BEARING CO., INC.
Syracuse 4, N. Y.

ROLLWAY CYLINDRICAL ROLLER BEARINGS

SALES OFFICES: Philadelphia • Boston • Pittsburgh • Cleveland • Detroit • Chicago • Minneapolis • Houston • Los Angeles

Industry's Production and Refining Rate at All-Time Peak

Two all-time records were broken in the week of June 7, as the industry produced and refined more crude oil than in any other period in history, according to the latest report of The API. Daily crude output averaged 5,064,000 barrels, 39,000 barrels a day more than the previous peak, and daily crude runs to refinery stills amounted to 5,148,000 barrels. This record-breaking refinery activity, which represented 91.9 percent of the nation's total capacity, topped the previous high of 5,140,000 barrels a day reached at the end of the war in 1945.

Reports from refineries indicated that the industry as a whole produced 15,350,000 barrels of gasoline; 5,286,000 barrels of distillate fuel, and 9,032,000 barrels of residual fuel oil during the week. And at the end of the period had in storage 94,802,000 barrels of gasoline; 37,173,000 barrels of distillate and 46,779,000 barrels of residual fuel oil.

NPC Materials Report

■ CONTINUED FROM PAGE 32

tion which creates scarcities which cause increased costs and prices which cause more strikes. Production is the only answer to lower living costs and adequate materials.

The government should cooperate in the export situation by discontinuing purchases of critical industrial materials for foreign governments and by revamping its export regulations and controls which, in actual, practice by the bureaus which handle them give preference to the requirements of foreign governments and shows a lack of understanding of the needs of the American petroleum industry in its effort to serve the interests of the American people. Foreign government requirements should come only after our own basic needs for materials are met. The present government practice of preferentially handling foreign government requirements of critical materials through directives, priorities, and export controls, weakens our own position in world markets.

In view of the new, unexpected and unprecedented demand, and the present forecast of a continued upward trend, it is apparent that we are reaching a point where consideration should be given to any possible needs for expanded manufacturing facilities for increasing the production of bottleneck items of materials used in petroleum operations. However, little consideration of expansion could reasonably be expected of a manufacturer when production from his present facilities is faced with a continuous expectancy of strikes, stoppages and slow-downs, in his own plants or in plants which supply him with raw materials or components. Therefore, in order to assure the maximum supply from existing facilities, and to clear the atmosphere for expansions where necessary, the committee feels that the government should follow the above recommendations.

While the whole petroleum industry is affected by the shortages listed herein, special commendation is due to the manufacturers for producing critical materials under many difficulties; to the operator who doggedly searches for new oil despite the confusion; and to the American operator who develops American interests abroad despite excessive governmental red-tape concerning the relatively small quantity of materials he needs.

The committee feels that economic balance cannot be attained until all recommendations previously made and now re-affirmed in this report are complied with by the government; and, in addition, the trend and impact of the unprecedented demand of the public for petroleum products and natural gas should be fully weighed by the manufacturers.

The report is respectfully submitted to the Council in the interest of the petroleum industry and the American people it serves.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod.		Runs to Stills		Crude Stocks		Gasoline Stocks		Gasoil and Distillate Stocks		Residual Fuel Oil Stocks	
	Barrels Daily	Week Ended	Barrels Daily	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended
Highs:												
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	47,861	11-14	95,857	1- 8
1945	4,944	7-21	5,140	8-18	227,554	10-13	99,012	3-24	45,341	11-17	56,074	1- 6
1946	4,961	6-15	4,968	12-28	229,430	3- 2	105,233	2-16	[1]67,286	11- 9	61,036	11- 2
1947	[1]5,064	6- 7	[1]5,148	6- 7	239,370	5-31	107,576	3-29	58,034	1- 4	53,285	1- 4
Lows:												
1945	3,621	10- 6	3,409	10- 6	[2]211,813	8-25	70,791	10-13	26,483	3-17	38,548	5-26
1946	4,403	3- 9	4,498	1-12	218,193	1- 5	85,324	9-28	25,131	3- 9	37,289	4- 6
1947	4,531	4-11	4,667	4-12	22 ,313	2- 8	9 8 2	6 7	31,7[illegible]	4-19	42,668	4-26

TRENDS OF 1946 AND 1947

Trends in Week Ended	Crude Oil			Gasoline		Gasoil and Distillate		Residual Fuel	
	Production Daily	Runs to Stills Daily	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End
1946:									
January 5	4,548	4,651	218,193	14,488	98,494	5,923	35,199	8,867	42,371
January 26	4,626	4,553	220,544	13,622	101,737	5,720	29,498	8,411	39,722
February 23	4,714	4,595	226,699	13,175	104,709	5,728	25,398	7,913	39,290
March 30	4,425	4,684	224,994	13,896	104,715	5,337	28,240	8,738	37,746
April 27	4,672	4,685	224,443	14,228	99,631	5,568	30,466	9,204	39,404
May 25	4,759	4,857	222,214	14,312	95,769	5,463	32,973	8,908	43,368
June 29	4,957	4,854	223,883	14,500	92,333	5,325	37,762	8,828	46,477
July 27	4,926	4,896	223,756	14,535	88,626	5,817	44,316	8,217	49,517
August 31	4,833	4,911	227,132	15,014	87,217	5,630	53,134	8,539	53,173
September 28	4,778	4,829	223,043	14,675	85,324	5,632	59,827	8,172	57,657
October 26	4,730	4,758	221,184	14,863	86,423	5,710	65,499	7,728	60,872
November 30	4,795	4,707	227,693	15,145	88,371	5,258	66,062	7,672	58,647
December 28	4,713	4,968	225,995	15,604	93,126	5,931	58,941	8,181	53,427
1947:									
January 4	4,649	4,917	223,291	15,281	94,882	5,857	58,034	8,375	53,285
January 25	4,672	4,820	221,655	14,624	99,801	5,630	50,357	8,224	48,558
February 22	4,786	4,860	224,580	14,668	103,904	5,929	40,739	8,542	44,919
March 29	4,865	4,843	227,529	14,396	107,576	5,969	32,737	8,668	43,364
April 26	4,930	4,725	235,383	14,213	103,860	5,435	32,286	8,186	42,668
May 3	4,951	4,816	237,140	14,383	103,505	5,294	31,899	7,836	42,944
May 10	5,005	4,840	236,500	14,351	100,934	5,514	33,363	8,224	42,875
May 17	5,008	4,867	237,303	14,522	99,793	5,662	33,844	8,217	44,390
May 24	5,025	4,970	237,702	14,927	97,827	5,518	35,212	8,292	44,499
May 31	5,024	5,000	239,370	14,709	95,876	5,732	36,032	8,910	45,224
June 7, 1947	[1]5,064	[1]5,148	.....	15,350	94,802	5,286	37,173	9,032	46,779
June 8, 1946	4,896	4,830	[3]220,885	13,924	93,113	5,413	34,737	8,691	45,411
Change:									
In Week	+40	+148	+1,668	+641	—1,074	—446	+1,141	+122	+1,555
In Year	+168	+318	+18,485	+1,426	+1,689	—127	+2,436	+341	+1,368
In Year	+3.4%	+6.6%	+8.4%	+10.2%	+1.8%	—2.3%	+7.0%	+3.9%	+3.0%

[1] All time peak. [2] Lowest since December, 1921. [3] Stocks, June 1, 1946.

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• Oklahoma

Several New Pools Seen By Operations for Week

Redrilled hole opens new pool in Garvin County; new pool apparently opened in Alfalfa County; prospective pool opener in Pottawatomie County testing; Meno pool opener holding steady flow of gas, distillate; Mississippi pool opened in Western Noble County.

Garvin County: An area condemned for oil and gas production by a deep wildcat test in 1934, apparently has been proven a new oil pool. Ned Biffle et al's Pharoah 1, NW NW NW 15-3n-2w, originally drilled by William Atkinson, Oklahoma City, and associates and abandoned at 6216 feet in the Bromide-Wilcox sand, flowed an estimated 300 barrels daily from the second sand zone in the Pennsylvanian series. Sand was found from 5563-92 feet, with pipe set at 5626 feet. Casing was perforated with 48 shots at 5563-71 feet and the hole bailed and swabbed dry. There was an estimated 300-barrel fill-up of oil in eight hours. While crews were running tubing to 5555 feet, the well cleaned itself into the air. It is shut in with 400 pounds tubing pressure and 900 pounds casing pressure while operators await connections, tanks and separator. Gas was estimated at 100,000 feet daily. The area is a mile north of Antioch, and 2 miles northeast of Southwest Antioch field.

Alfalfa County: The county apparently has its first commercial oil production in Tom Ray et al's Pelter 1, CNE SE 21-25n-12w, southwest of Cherokee townsite. The Pelter is producing oil from the Mississippi chat zone, with 5½-inch pipe set at 6105 feet and plug-back depth of 6165 feet. Estimated production is 300 barrels of oil and 15 million feet of gas per day. In the northern portion of the Anadarko Basin, the well is on a block of 6000 acres.

Pottawatomie County: Danciger Oil & Refining Company is testing its prospective pool opener, the Ailey 1, SW SW NE 2-10n-4e, northeast of Shawnee townsite. The wildcat topped the first Wilcox sand at 4788 feet, where good saturation was logged. Cores were taken from 4788-95 feet, total depth.

Major County: Since R. Olson Oil Company et al's Ott 1, CW½ SW SE 4-21n-9w, gas and distillate well opened the Southeast Meno pool, it has produced approximately 211 million feet of gas and 3800 barrels of distillate. Pay is from the second Wilcox sand, topped at 8005 feet.

Noble County: Testing is continuing at Derby Oil Company's Wiegel 1, NE NE SE 2-21n-2w, pool opener in the western portion of the county. The well was drilled to the Mississippi lime, 4814-61 feet, where 500,000 feet of gas and 165 feet of high gravity oil was recovered on a drill-stem test. Meisner-Wilcox sand zones will be tested.

• Kansas

Sedgwick County New Pool, Other Openers Seen Likely

New oil field opened in Sedgwick County; Sumner County well extends Perth pool to south; Butler County wildcat looming as possible pool opener.

Sedgwick County: Aladdin Petroleum Company has opened a new oil pool a mile south of the abandoned Schulte pool, Dugan 1, NW NW SE 7-28s-1w, recovering 2200 feet of oil on a 15-minute drill-stem test at 3660-03 feet in the Simpson sand. Earlier the well had shown 150 feet of oil and 3690 Mcf of gas on a drill-stem test in the Mississippi lime zone, 3338-83 feet.

Sumner County: The Carter Oil Company has extended the Perth pool ½ mile to the south with the Dowis 1, CNE SW 12-33s-2w. Simpson sand was found from 4241-44 feet, and the well is flowing. Pipe was set on top of the pay, completion tests are being run.

Butler County: Sam Springer may open a new oil pool with the Shinn 1, NWc 30-29s-8e. Located 1½ miles southwest of the Shinn pool, the well had 150 feet of oil in the hole at 2730 feet in the Mississippi, topped at 2680 feet. Testing continues.

Meade County: Closely watched wildcat is Helmerich & Payne et al's Adams 2, SE SE SE 36-34s-30w, five miles northeast of the Adams Ranch gas pool. Oil shows have been logged in the Mississippian and the Pennsylvanian. Total depth is 6416 feet. Gas was recovered in the basal Pennsylvanian.

McPherson County: Mallard Drilling Company and associates may have a new Mississippi Chat pool a mile south of the old Roxbury South pool. Robinson 1, NW SE 31-17s-1w, recovered 1000 feet of oil in hole and tubing and rods are being run to put the well on pump.

• Mississippi

State's Deepest Oil Test Abandoned at 15,730 Feet

Superior abandons state's deepest in Forrest County; further testing of Humble's Marion County well; Gulf has shows in 12,000-foot Jones County test.

Forrest County: Superior Oil Company's Cassie Bradford 1, N&W SEc SW NW 1-3n-13w, finally has been abandoned after setting a new depth record of 15,730 feet for the state. Shows were reported in the Massive sand zone at 10,000 feet and again at 12,000 feet and it was supposed to have been perforated and swabbed before shut down several months ago.

Marion County: Humble Oil & Refin-

Wells Completed in the United States in Week Ended June 7, 1947

Data preliminary and subject to revision. Revised and more complete data on all completions and exploration shown in monthly summaries published in last issue of each month.

State or District	FIELD COMPLETIONS: New Wells: Oil	Dist.	Gas	*In-put	Dry	Total	Old Wells Deepened	EXPLORATORY COMPLETIONS: Oil	Dist.	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	This Week 1946
Alabama											1	1	1		
Arkansas	1				1	2					1	1	3	13	5
California	24				2	26					2	2	28	30	47
Colorado	3					3					2	2	5	4	
Florida											1	1	1	1	2
Illinois	18				9	27	1				9	9	37	37	28
Indiana	6				1	7		1			3	4	11	17	10
Kansas	13		2	1	5	21	4				8	8	33	43	41
Kentucky	9			1	5	15					1	1	16	11	8
Louisiana	16		2	1	6	25		1	1	1	6	9	34	19	29
N. Louisiana	10		2		3	15		1		1	3	5	20	11	19
S. Louisiana	6			1	3	10			1		3	4	14	8	10
Michigan	9				2	11					3	3	14	17	17
Mississippi	5		1			6					4	4	10	4	4
Missouri															1
Montana	7				1	8							8	6	
New Mexico	7					7					3	3	10	14	13
New York	14		1	15	1	31							31	29	25
Ohio	6		14		9	29	1				4	4	34	26	17
Oklahoma	37		3	3	20	63		2			20	22	85	57	44
Pennsylvania	20		14	21	5	60	1						61	65	56
Texas	74	2	9	1	28	114	3	7	2	2	24	35	152	172	136
DISTRICTS:															
1—S. Central	4					4					1	1	5	2	1
2—Middle Gulf	5		2		2	9			1			1	10	12	1
3—Upper Gulf	8	1			2	11		2	1		4	7	18	16	14
4—L. Gulf-S W.	11	1			3	15		2		1	5	8	23	20	25
5—E. Central										1	2	3	3	2	2
6—Northeast	3		3		2	8					1	1	9	8	13
7-B—N. Central	1				1	2		1			3	4	6	19	3
7-C—W. Central	4					4					1	1	5	7	4
8—West	20				5	25	1	2			1	3	29	45	28
9—North	14			1	11	26	1				4	4	31	34	51
10—Panhandle	4		4		2	10	1				2	2	13	7	4
West Virginia	2		6		2	10							10	17	8
Wyoming					1	1							1	6	
Total U. S.	271	2	52	43	98	466	10	11	3	3	92	109	585	588	491

* Includes salt water disposal wells. [1] Middle Gulf included with Lower Gulf-S.W. [2] East C[illegible] included with Northeast. [3] North Central included with North. [4] West Central included with West.

PALOMA FIELD TESTS SHOW 2 to 3cc API LESS WATER LOSS

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NEW WATER LOSS CONTROL REAGENT

Company A reports . . . in the Paloma field of California, test wells using AEROTAN* exclusively are showing excellent results. Typical is a well drilled by Company A—a deep hole 11,700 feet, of which 10,600 feet was uncased. AEROTAN was the only water loss control reagent used in drilling this well. Drilling was through formations typical of most of the adverse conditions to be met in California . . . bentonitic shales, sluffing shale, hard chert, high temperatures—145/150° F. at the flow pipe, 200/220° F. bottom hole. In spite of the large amount of open hole no tight spots were encountered, filter cake was excellent, and the average water loss was from 2 to 3 cc API lower than average for the district.

Company B reports . . . similar results were obtained with AEROTAN by Company B, also in the Paloma field. This was a 12,000 foot hole, 11,750 feet of which was open hole. Here again no tight spots were encountered. Temperature ran about 122° F. at the flow pipe. Water loss averaged about 1 cc API lower than normal for the district.

AEROTAN has also shown definite superiority in the treatment of cement contaminated mud . . . a difference as great as 4 cc API in comparison with other reagents.

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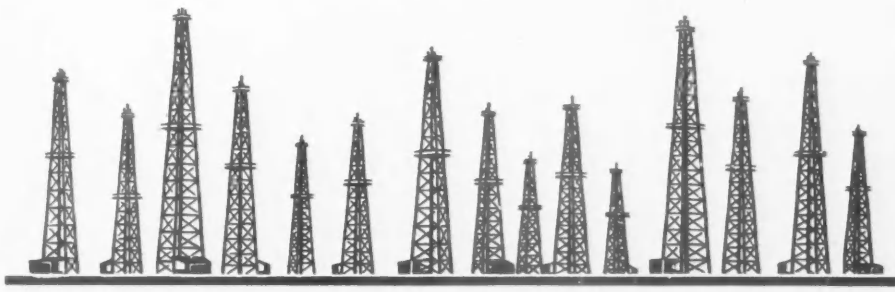

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ing Company's C. Tullos 1, SWc 12-1n-18w, which has given assurances of commercial production is undertaking to eliminate heavy salt water intake. After flowing gas at the rate of 1030 Mcf gas per day considerable amounts of salt water developed and gas pressure fell off. Perforations at 8996-9003 feet are being squeezed and further tests will be made.

Newton County: J. J. Broadus' Newton County Bank 1, NEc SE 9-6n-11e, wildcat is drilling below 4650 feet. With Eutaw topped at 3670 feet, cores taken at 3937-57 feet recovered sand with stringers of shale and salt water.

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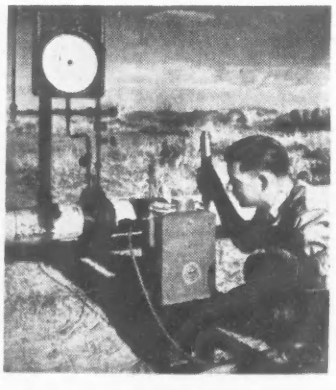

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Copiah County: I. P. LaRue's Harris Heirs 1, SEc SW 22-1n-3w, Massive sand test is drilling below 10,037 feet. Sand was topped at 10,011 feet and cores taken at 10,013-033 feet recovered porous salt water sand with shale stringers.

Jones County: Gulf Refining Company's L. L. Majors 1, SEc NE 29-6n-11w, wildcat has been continuously cored below 12,000 feet, with good odor or shows in every section. Union Sulphur Company's Earline Parker 1, NEc 31-10n-10w, is running surface casing after reaching a depth of 1170 feet. It probably will go below 6000 feet. Four wells in this area have been abandoned.

Warren County: Amerada Petroleum Corporation's Dabney Bonelli 1, SWc 9-18n-2e, is bottomed temporarily at a total depth of 5207 feet in salt and is running geophones. Slight shows were reported at several points.

Washington County: C. H. Murphy, Jr.'s Land Bank 1, SEc 19-16n-8w, Tuscaloosa test is drilling below 4558 feet. Chalk was topped at 3968 feet. Cores at 4026-32 feet indicated sandy marl while cores at 4046-59 feet recovered sand with no shows. Murphy has set surface casing on his Currey 1, in 2-15n-8w.

Yazoo County: Southern Production Company's H. T. Carley 1, NW NW 28-10n-4w, has been abandoned at 7653 feet in the Comanchean zone.

Alabama

Carter Oil Company's Herbert Moseley 1, C NE SW NW 3-10n-3w, in the Gilbertown field, cut a fault at 2498 feet, where top of the Chalk was encountered with 500 feet displacement. Total depth is 3287 feet. Perforations were made at 3271 feet, and the well is reported swabbing oil and wash water.

Florida

Magnolia Petroleum Company's Florida State Block 5-B 1, lying offshore in an unsurveyed area in Franklin County, has been abandoned at a total depth of 697 feet after drill-stem stuck. Derrick is being moved to a new location.

Palm Beach County: Humble Oil & Refining Company's Tuscon Corporation 1, SWc 35-43s-40e, is drilling below 11,809 feet with no shows reported.

Collier County: Humble's Lee Cypress 3, SE SE 28-47s-29e, squeezed perforations at 11,816-834 feet, and is reperforating at 10,312-26 feet. There was a good blow on drill-stem test that died. Operators are pulling testing tool.

Georgia

In Appling County, J. E. Weatherford has made location for W. E. Bradley 1, in Lot 522, Land District 2, the first test for this area in the southeast section of the state.

Toombs County: T. R. Davis' Bonny Lyon 1, 7 miles southeast of Lyons, is drilling below 1100 feet.

• Ohio

Deerfield Pool Confirmed; Elyria Reports Gas Well

Oil pool in Deerfield confirmed; St. Peter to be tested in same township; Sego extended northeast; Big gas well at Elyria.

Morgan County: National Oil and Gas Corporation's second offset to the discovery well found on H. H. Bankes, NW NE 20 Deerfield, came in with a good showing of oil. The discovery was a

light oil well and the first offset, located ¼ mile west, came in dry. The second offset, 1600 feet south and on the Bankes tract, filled up 2500 feet with oil while drilling in and after shot, flowed 117 barrels. It is probable that the oil will be graded Pennsylvania. Production is from the Clinton, which came in at 4114-55 feet.

In the northeast of the same township, S. J. Brendel Oil and Gas, Inc., are drilling the Maynard Barnes 1 SW NE 12, down to the St. Peter. Trenton limestone was reached at 5720 feet.

Perry County: John Morrow et al drilled through the Clinton sand on Charles Crossan, NW SW 27 Madison, and reported 700 Mcf of gas in the top of the sand and a fair showing of oil in the bottom part. After shot, the well flowed 65 barrels in 40 hours. Clinton was logged at 3266-3325 feet.

Lorain County: G. B. Harmon et al's third gas well out of the five tests drilled in the new pool south of Elyria, looks like the best. Clinton sand at 2274-76 feet had a small showing of gas and sand at 2300-18 feet gauged 875 Mcf natural. After shot, the well, which is on Anna Polen NE SW 3 Carlisle, caught fire and was tubed on top of the tool which fell in the hole. The estimated shut-in gauge is 1800 Mcf with a rock of 1150 pounds.

• Michigan

Good Oil Shows Reported In Newaygo and Tuscola

Two wells in Newaygo and Tuscola counties report good shows of oil on tests.

Newaygo County: Scott Drilling Company's Mitchell 1, NE NW NW 24-12n-13w, 1½ miles southeast of Kimball Lake Traverse oil pool, showed 2000 feet of oil on drill-stem test in Traverse limestone, indicating major extension for the 1947 discovered pool. Outpost logged Traverse at 2334 feet, relatively flat with producers in south part of field.

Tuscola County: George G. Hanners' Dixon 1, NW NW NE 6-13n-11e, southeast offset to the 1946-drilled Elkland discovery well, carried 300 feet of oil and water in the Dundee at 2667-92 feet and was under test. Discovery produced about 50 barrels a day when completed in Dundee horizon but has not been on regular production this year because of water problems.

Ohio Oil Company has acquired approximately 30,000 acres of leases located in 20 different Michigan counties from Skelly Oil Company. Skelly entered Michigan in 1942 and retired in 1946.

• West Texas

Crockett Test Revives Flow from the Crinoidal

Crockett County wildcat revives prolific flow from Crinoidal; Fullerton field has first Devonian completion; geophysical prospect in Crane County commands big bonus and an Ellenburger test.

Crockett County: Cities Service Oil Company et al's Owens 1-B, between the Clara Couch and Olson shallow fields and a failure in Ellenburger at 8264 feet, revived production passed up in the Crinoidal, topped at 5616 feet, but will re-perforate due to excessive gas-oil ratio. Perforations at 5645-50 feet yielded 93 barrels of 42-gravity oil, including 5 percent rotary fluid, with gas-oil ratio of 9840/1, on 5-hour natural flow through 5/32-inch choke.

Stanolind Oil & Gas Company's University 1-TT, C SW NW Section 12, Block 39, Block 39 prospect and a failure in the Ellenburger, topped at 8080 feet, flowed 97 barrels of oil on 21-hour test through ¾-inch after being shutin for pressure buildup. Production is from detrital perforations at 8044-52 feet.

Amerada Petroleum Corporation's University 1-CTA, wildcat that cemented 5½-inch at 8710 feet to protect broken oil pay in Ellenburger, topped at 8102 feet, was drilling lime at 8992 feet to establish the basement rock for geological information before attempting production test through perforations.

Crockett County has 7 active Ellenburger wildcats, and 3 more have been scheduled that includes John L. Moore's Hoover 1-D, C NE NE GC&SF 17, Block 1, and Hoover 1-E, C NW SW BS&F 1, Block GG. Gulf Oil Corporation shortly will announce a new Ellenburger test for its Lancaster Hill prospect. Operations are under way on Ellenburger wildcats by Byrd & Frost, Inc., Humble, Hyde & Moncrief et al, Sinclair Prairie and Atlantic, The Texas Company and Ted Weiner et al.

Pecos County: The Pure Oil Company's Harrison 1, wildcat, was drilling at 11,605 feet, having tested nominal show of sweet gas in the Pennsylvanian at 11,342-384 feet and at 11,408 feet.

Crane County: Gulf Oil Corporation

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made location for Hattie Connell 1-A-E, C NW SW PSL 26, Block B-22, a 10,000-foot Ellenburger wildcat obligation assumed in acquiring lease on 3200 acres of the Connell ranch. This prospect is on a direct strike between the Sand Hills multi-pay field and the Jordan field, while it is 3⅛ miles southeast of The Texas Company's Alan Connell 1, Ellenburger wildcat, that was drilling Middle Clear Fork at 6030 feet, having tested dry at 5995-6018 feet.

Andrews County: Texas Pacific Coal & Oil Company's Jackson 14-D, failure for the Ellenburger sector of the Fullerton field, established the first Devonian production in flowing 1422 barrels of 44-gravity oil initial, with gas-oil ratio of 695/1, through ½-inch choke. The well was plugged back from 10,534 feet to 8290 feet, and the Devonian was entered at 8110 feet, with elevation of 3340 feet.

Terry County: Amerada's Elkins 1, west offset to its discovery for the Adair field, was re-acidizing after swabbing 220 barrels of fluid, with bs&w content declining to 3.2 percent, on 20-hour test. The company's Posey 1, ⅞-mile northwest outpost, was drilling at 4868 feet, and Hicks 1, southeast offset to the discovery was drilling at 4876 feet.

Gaines County: Honolulu Oil Corporation's White & Shelton, wildcat and 4¼ miles northwest of a discovery pumper, was testing for water shutoff after deepening from 6973 feet to 7003 feet. The well flowed 170 barrels of oil daily through open tubing before deepening.

Amerada's Jones 2-A, which temporarily passed up Devonian production to give the Jones Ranch field an Ellenburger test, was drilling at 12,710 feet in Simpson, topped at 12,675 feet. It occupies the highest structural position.

Hockley County: James A. Edminston, Jr., and Western Drilling Company's Gregg-Texaco 1, SEc Labor 25, League 731, is expected to extend the Levelland field 1-1/16 miles north by west, it having logged broken pay at 4798-4833-feet in San Andres, topped at 3800 feet with elevation of 3567 feet. Cable tool unit was being moved in to drill plugs from 5½-inch at 4781 feet. Amerada's Shofner-Tidal 1, 1⅞ miles northeast of Levelland field production and structurally low, was abandoned at 5000 feet.

• North Texas

Strike from Bend Likely In Throckmorton Prospect

Throckmorton County wildcat on production, and prolific strike from Bend indicated by a new prospect; Fargo field assured of second Ellenburger producer.

Throckmorton County: James H. Snowden et al's Bailes-Parmenter-Jones Unit 1, NW NE BBB&C Ry. 296, and 2½ miles northwest of the McKnight field, was making production test late last week after registering flow of oil rated at 90 barrels per hour when tester was used at 4245 feet in Bend, topped at 4234 feet. Pipe was cemented at 4226 feet.

Tom F. Hunter et al's Matthews 1, southeast corner of Section 60, Comanche Indian Reservation, flowed 1½ to 2 barrels of oil hourly natural through small chokes from open hole at 4487-4494 feet. This production is from Bend lime, topped at 4310 feet, with elevation of 1363 feet. Acid treatment is scheduled.

Young County: Warren Oil Corporation's Allar 1-I, north offset to its Basal Bend, or Marble Falls oil discovery on the west edge of the Kendall field, flowed oil through tester from this new oil zone at 4188-99 feet, and will complete through open hole.

Wilbarger County: Humble Oil & Refining Company's McCaleb 7, SW NE H&TC Ry. 34, Block 15, and ¼ mile west of its recent Ellenburger-pay discovery for the Fargo field, entered the Ellenburger at 6261 feet, or 19 feet low. Pipe was set after coring pay to 6297 feet, and the customary drill-stem test was not run due to the favorable showing of the 27-foot recovered core. The discovery drilled 97 feet in the Ellenburger without water.

• West Central Texas

Two Ellenburger Prospects In Shackelford County

Shackelford County has two prospective oil discoveries from Ellenburger; confirmation well and extension given new Palo Pinto area in Fisher County; commercial producer assured for Stephens County prospect.

Shackelford County: Hickok & Reynolds, Inc.'s Merrick Davis 1, NE SE T&P Ry. 14, Block 12, is rated as a probable oil discovery from Ellenburger, topped at 4929 feet with elevation of 1747 feet, and drilled to 4956 feet. Drill-stem test of this section, with packer at 4918 feet yielded gas to the surface within 25 minutes, and 90 feet of heavily oil and gas-cut mud was recovered. This wildcat is 2¼ miles east of a 5315-foot failure that had nominal oil showing above Ellenburger at 4951-54 feet, and correlates 13 feet high on the Bend and 55 feet high on the Ellenburger.

Big West Drilling Company's Hendrick 12-A, Subdivision 8, AB&M Survey, 4 miles east by north of the Ivy multi-pay field, cemented pipe on Ellenburger, topped at 5257 feet with elevation of 1624 feet, to try for completion after registering a favorable drill-stem test of the section. Gas was yielded to the surface within 4 minutes, and the oil recovery indicated commercial production.

Fogelson & Ingleright's Lones 1, C SE NW T&P Ry. 64, Block 11, adjacent to shallow gassers and a failure in Ellenburger at 4301-36 feet, pumped 132 barrels of oil initial after plugging back to Strawn sand at 3061-78 feet. This gauge included accumulated fluid, as the well later settled to 35 barrels daily.

Fisher County: The Texas Company's Stephens 4, C NW NW H&TC 79, Block 1, and south of the Palo Pinto lime discovery for the Round Top field and lower structurally, flowed at rate of 5 barrels oil hourly with gas volume rated at 500 Mcf daily when tester was used at 4888-4919 feet. Second test at 4935 feet resulted in steady flow of 15 to 20 barrels of oil hourly. Pipe was landed on bottom to complete through perforations. This zone is also productive in the 9-well Eskota field, situated in the southeast corner of the county.

Stephens County: Lloyd Oil Company et al's Tipton 1, Nancy Williams Survey A-920 wildcat, is rated at 200-300 barrels daily from Mississippi perforations at 4524-34 feet, having plugged back from barren Ellenburger at 4713 feet. It is 4 miles from nearest pipe line.

• East Texas

Hawkins Field Deep Test Encounters Salt Plug

Salt plug encountered by Hawkins field's record-depth test; re-worked Smith County wildcat making production test; deep prospect at Bazette without shows in Rodessa.

Wood County: Humble Oil & Refining Company's McKnight 1, northeast edge of the Hawkins field and deepest test in the district by a margin of 84 feet, eliminated prospects for Smackover lime production due to entering salt plug at 14,410 feet. Drilling was halted at 14,415 feet to condition the hole, and plans are to plug back and try for completion in the 8900-foot Rodessa gas-distillate zone. McKnight 1 was drilled with open hole below 5476 feet and total cost will be near $450,000.

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Humble's Rio Oil Corporation 1, Travis Peak prospect for the Yantis area, logged base of massive anhydrite at 7650 feet, and was coring dry lime at 7685 feet.

Smith County: Bobby Manziel and H. W. Snowden Oil & Gas Company's Morrison 1, S. J. Survey, 3 miles northwest of Friendship, showed small amount of oil and gas on swabbing test of preliminary perforations opposite the Pettit, and additional perforations were scheduled. Perforation depths were not revealed. This wildcat was originally abandoned June, 1944, at 8110 feet in Travis Peak, topped at 8074 feet, after partly junking hole while attempting to test oil showings in the Pettit, which was entered at 7907 feet. Re-work operations consisted of plugging back and cutting pipe to drill by at 5546 feet.

Navarro County: J. L. Collins & Company, Inc.'s Barnet-Magnolia 1, Travis Peak test for the Bazette faulted structure, entered the massive anhydrite at 5513 feet, and was drilling at 5730 feet.

Freestone County: The Texas Company's White 1, west outpost of the Fairfield multi-pay field and a failure in Smackover at 14,331 feet, recorded rated open flow potential of 30 million feet of gas after plugging back to the Woodbine. This gas is from perforations at 4197-4200 feet. More perforations will be made when market becomes available for the gas.

Completion Due in June On Texas-Mexico Gas Line

The 151-mile gas pipe line connecting South Weslaco field of Hidalgo County, Southwest Texas, and industrial plants in Monterrey, Mexico, is expected to be completed late in June, according to announcement of officials of Reynosa Pipe Line Company, subsidiary of La Gloria Corporation of Corpus Christi, owner of the four wells in the field.

All but 3 or 4 miles of construction on the 134-mile line from Monterrey to a point east of Reynosa on the Rio Grande is complete. The 14-inch line will be connected with the 12¾-inch line being completed on the Texas side of the river, which lacks only 5 miles of construction near the field. The line's capacity will be 40,000 Mcf of gas daily and its cost will come to $4 million.

The new international carrier is the second of its type to cross the Rio Grande in this area, the other being United Gas Company's line from a field in Zapata County southeast to Roma, there crossing the river to San Pedro and following a route direct to Monterrey.

Osage Sales Plan

The Osage Tribal Council will abandon the present sealed bid style of sale of oil and gas leases, and will return to the public sale with the first public system sale set for August. Six sales are planned each year thereafter.

Carthage Wells Sold

James F. Gray and associates, Dallas, paid reportedly more than $1 million for six producing gas-distillate wells in the Carthage field, Panola County. The wells, located on a 3300-acre tract, were purchased from N. H. Turner and Walter Smith of Carthage. Gas purchase contracts are held by Arkansas Louisiana Gas Company.

Canadian Project

The 5-mile 8-inch crude oil line from Froomfield to Imperial Oil, Ltd.'s, refinery at Sarnia, Ontario, Canada, is expected to be completed by June 15, and will increase daily deliveries of oil from 42,000 to 45,000 barrels. This line is in addition to one 6-inch and another 8-inch line into the refinery.

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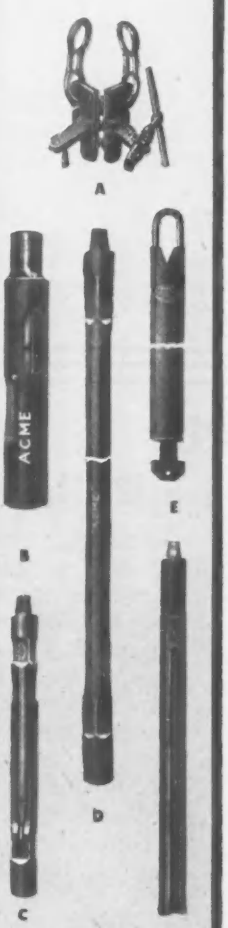

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• East Texas Border

San Augustine County Test Improves With Acidizing

Acidizing improves flow of San Augustine oil discovery; Waskom outpost has drill-stem shows.

San Augustine County: M. E. Davis' W. A. Johnson 1, Edmund Quirk Survey, had a natural flow of 85-100 barrels of 46-gravity oil per day through 5/32-inch choke, establishing Pettit lime production 6 miles north of San Augustine. No formation water was showing. Production is through 180 perforations at 8130-60 feet. It went to 8977 feet, and set casing to 8974 feet. Acidized with 1000 gallons, it began flowing 624 barrels of oil daily through ¼-inch choke.

The discovery is about on a par with Rodessa. The oil contains a good aviation lube content. Magnolia Pipe Line Company will connect.

Harrison County: Extension to the Waskom field seems probable on basis of drill-stem test of Byrd Oil Corporation and E. Hurley's Jobe 1, Sarah Reynolds Survey, which showed for an estimated 50 to 75 million cubic feet of gas a day. On test of the Pettit from 7503-07 feet, tool was open only 1½ minutes. The outpost went to 5708 feet, and will be carried to the Travis Peak before completion attempt.

Interstate Compact OK'd

The Senate Judiciary Committee last week recommended passage of the Hatch resolution granting Congressional consent to a four-year extension of the Interstate Oil Company, and the legislation may go through the Senate within the next few days. The House is expected to follow suit without opposition.

On the House side of the Capitol, a subcommittee of the Public Lands Committee, after hearing officials of the Interior Department, made a favorable report to the full committee on the Case bill extending the department's synthetic fuel demonstration program from five to eight years and increasing the over-all authorized expenditure on the work from $30 to $50 million.

• North Louisiana

Union Offset Confirms Shallow Oil Production

Union County shallow discovery well confirmed by east offset; county also has prospective Bodcaw discovery; Monroe area gets gas production.

Union County: E. F. Neely, W. C. Feazel and Roberts Company's A. L. Dykes et al 1, 1650 feet from the north line and 330 feet from west line of 24-22n-1w, in the east 40-acre offset to R. T. Sellars, Wilson Ewing and Gus Primos' Monzingo-Rivers Lumber Company et al 1, appears to confirm shallow oil production in the latter discovery. The Dykes 1 cored from 2129-32½ feet and recovered 3½ feet of firm sand with good saturation. Another core from 2137½-47½ feet recovered 5 feet of well-saturated sand. The well showed oil in the pits when core was being pulled in the last interval and heavier mud was required in the hole to keep control. Electrical survey will be run at 2180 feet.

The Nacatoch sand discovery, Monzingo 1, on last gauge flowed 103 barrels of 29.4-gravity oil daily through ⅛-inch choke without formation water, and was shutin when both 210-barrel tanks were filled. A loading rack for trucks is being built.

Marine Oil Company is rigging up at Monzingo-Rivers Lumber Company 1, C NE SW NE 23-22n-1w, 660 feet west of the discovery with 10-acre spacing indicated.

T. L. James & Company's E. H. Miller 1, wildcat in 36-23n-2w, 4 miles south of Loram, appeared as a prospective Bodcaw sand discovery. Sand at 6314-31 feet reportedly had good odor and stain, with permeability from core analysis averaging 200 millidarcies per foot with saturation of 4 to 12.8 percent.

Ouachita Parish: Union Producing Company's wildcat in the southern sector of the Monroe gas field, Fee 1-152, C W½ SW SW 4-18n-4e, was completed flowing 1743 Mcf gas daily, on open flow, rock pressure 335 pounds. Perforations were made at 2160-2200 feet, and 5000 gallons of acid were used. Gas rock was topped at 2192 feet, total depth 4106 feet.

• South Louisiana

Calcasieu Parish Wildcat Shows Oil; Vinton Extended

Wildcat west of East Moss Lake field shows oil on drill-stem test; Vinton field production extended east; St. Helena Parish wildcat plugged and abandoned; Florence area wildcat making production tests.

Calcasieu Parish: Sun Oil Company's Louisiana Farm and Livestock 1, wildcat 2 miles west of East Moss Lake field, 7-11s-9w, on drill-stem test made through perforations at 8996-98 feet, using ¼ and ⅛-inch chokes, developed 3100 pounds pressure and recovered four stands of oil, seven stands of salt water and one stand and one joint of sand. Perforations were squeezed and another test was to be made at 8945-47 feet. Total depth is 10,152 feet with hole plugged back inside the 7-inch casing to 9138 feet.

Union Sulphur Company's Cleon Land and Development Company 1, outpost on the east side of Vinton field, has extended production. The well flowed 162 barrels of oil daily through 9/64-inch choke with tubing pressure of 1000 pounds, casing pressure of 250 pounds and gas-oil ratio of 521/1. Total depth is 6183 feet with 7-inch casing set on bottom and perforated at 6139-47 feet for completion.

St. Helena Parish: Magnolia Petroleum Company has plugged the Brinkhaus Unit 1, wildcat 2 miles west of Greensburg townsite and 35 miles northeast of Hallets Bayou production, East Baton Rouge Parish, total depth 10,042 feet. Tops by electric log are Cockfield 5790 feet, Cook Mountain 6022 feet, and Wilcox 6835 feet.

Vermilion Parish: Stanolind Oil & Gas Company's E. M. Watkins 1, wildcat, 6 miles east of Florence townsite, 23-13s-1w, is making production tests. Total depth is 12,191 feet plugged back to 11,970 feet and with 7-inch casing set to 10,900 feet with 5-inch liner set to 11,990 feet.

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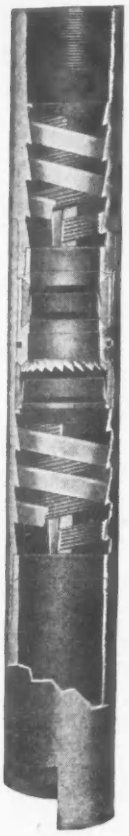

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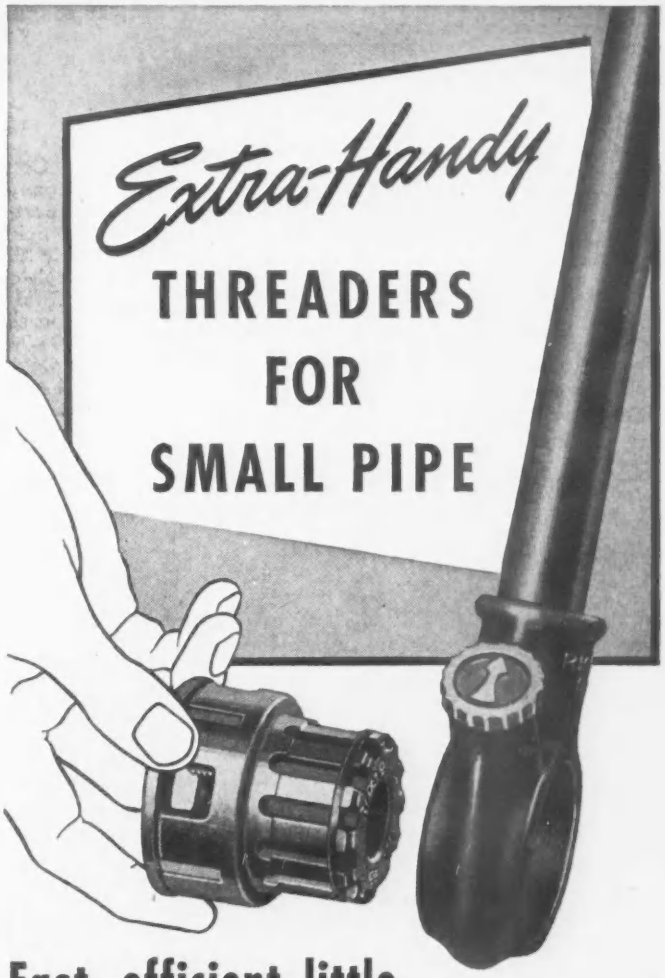

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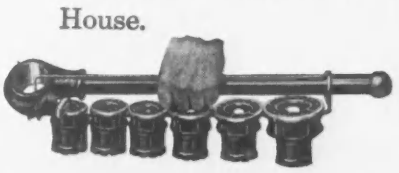

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• East Texas

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Smith County: Bobby Manziel and H. W. Snowden Oil & Gas Company's Morrison 1, S. J. Survey, 3 miles northwest of Friendship, showed small amount of oil and gas on swabbing test of preliminary perforations opposite the Pettit, and additional perforations were scheduled. Perforation depths were not revealed. This wildcat was originally abandoned June, 1944, at 8110 feet in Travis Peak, topped at 8074 feet, after partly junking hole while attempting to test oil showings in the Pettit, which was entered at 7907 feet. Re-work operations consisted of plugging back and cutting pipe to drill by at 5546 feet.

Navarro County: J. L. Collins & Company, Inc.'s Barnet-Magnolia 1, Travis Peak test for the Bazette faulted structure, entered the massive anhydrite at 5513 feet, and was drilling at 5730 feet.

Freestone County: The Texas Company's White 1, west outpost of the Fairfield multi-pay field and a failure in Smackover at 14,331 feet, recorded rated open flow potential of 30 million feet of gas after plugging back to the Woodbine. This gas is from perforations at 4197-4200 feet. More perforations will be made when market becomes available for the gas.

Completion Due in June On Texas-Mexico Gas Line

The 151-mile gas pipe line connecting South Weslaco field of Hidalgo County, Southwest Texas, and industrial plants in Monterrey, Mexico, is expected to be completed late in June, according to announcement of officials of Reynosa Pipe Line Company, subsidiary of La Gloria Corporation of Corpus Christi, owner of the four wells in the field.

All but 3 or 4 miles of construction on the 134-mile line from Monterrey to a point east of Reynosa on the Rio Grande is complete. The 14-inch line will be connected with the 12¾-inch line being completed on the Texas side of the river, which lacks only 5 miles of construction near the field. The line's capacity will be 40,000 Mcf of gas daily and its cost will come to $4 million.

The new international carrier is the second of its type to cross the Rio Grande in this area, the other being United Gas Company's line from a field in Zapata County southeast to Roma, there crossing the river to San Pedro and following a route direct to Monterrey.

Osage Sales Plan

The Osage Tribal Council will abandon the present sealed bid style of sale of oil and gas leases, and will return to the public sale with the first public system sale set for August. Six sales are planned each year thereafter.

Carthage Wells Sold

James F. Gray and associates, Dallas, paid reportedly more than $1 million for six producing gas-distillate wells in the Carthage field, Panola County. The wells, located on a 3300-acre tract, were purchased from N. H. Turner and Walter Smith of Carthage. Gas purchase contracts are held by Arkansas Louisiana Gas Company.

Canadian Project

The 5-mile 8-inch crude oil line from Froomfield to Imperial Oil, Ltd.'s, refinery at Sarnia, Ontario, Canada, is expected to be completed by June 15, and will increase daily deliveries of oil from 42,000 to 45,000 barrels. This line is in addition to one 6-inch and another 8-inch line into the refinery.

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Fig. 115
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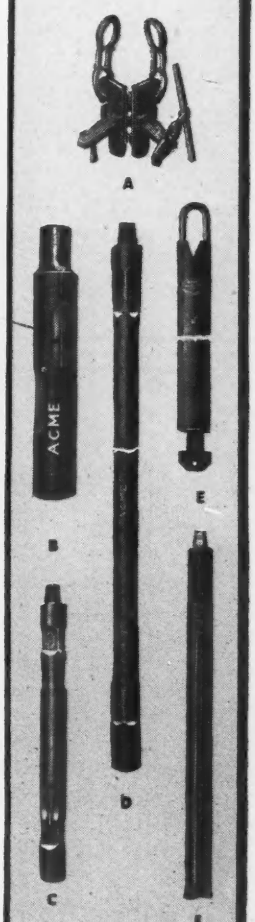

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• East Texas Border

San Augustine County Test Improves With Acidizing

Acidizing improves flow of San Augustine oil discovery; Waskom outpost has drill-stem shows.

San Augustine County: M. E. Davis' W. A. Johnson 1, Edmund Quirk Survey, had a natural flow of 85-100 barrels of 46-gravity oil per day through 5/32-inch choke, establishing Pettit lime production 6 miles north of San Augustine. No formation water was showing. Production is through 180 perforations at 8130-60 feet. It went to 8977 feet, and set casing to 8974 feet. Acidized with 1000 gallons, it began flowing 624 barrels of oil daily through ¼-inch choke.

The discovery is about on a par with Rodessa. The oil contains a good aviation lube content. Magnolia Pipe Line Company will connect.

Harrison County: Extension to the Waskom field seems probable on basis of drill-stem test of Byrd Oil Corporation and E. Hurley's Jobe 1, Sarah Reynolds Survey, which showed for an estimated 50 to 75 million cubic feet of gas a day. On test of the Pettit from 7503-07 feet, tool was open only 1½ minutes. The outpost went to 5708 feet, and will be carried to the Travis Peak before completion attempt.

Interstate Compact OK'd

The Senate Judiciary Committee last week recommended passage of the Hatch resolution granting Congressional consent to a four-year extension of the Interstate Oil Company, and the legislation may go through the Senate within the next few days. The House is expected to follow suit without opposition.

On the House side of the Capitol, a subcommittee of the Public Lands Committee, after hearing officials of the Interior Department, made a favorable report to the full committee on the Case bill extending the department's synthetic fuel demonstration program from five to eight years and increasing the over-all authorized expenditure on the work from $30 to $50 million.

• North Louisiana

Union Offset Confirms Shallow Oil Production

Union County shallow discovery well confirmed by east offset; county also has prospective Bodcaw discovery; Monroe area gets gas production.

Union County: E. F. Neely, W. C. Feazel and Roberts Company's A. L. Dykes et al 1, 1650 feet from the north line and 330 feet from west line of 24-22n-1w, in the east 40-acre offset to R. T. Sellars, Wilson Ewing and Gus Primos' Monzingo-Rivers Lumber Company et al 1, appears to confirm shallow oil production in the latter discovery. The Dykes 1 cored from 2129-32½ feet and recovered 3½ feet of firm sand with good saturation. Another core from 2137½-47½ feet recovered 5 feet of well-saturated sand. The well showed oil in the pits when core was being pulled in the last interval and heavier mud was required in the hole to keep control. Electrical survey will be run at 2180 feet.

The Nacatoch sand discovery, Monzingo 1, on last gauge flowed 103 barrels of 29.4-gravity oil daily through ⅛-inch choke without formation water, and was shutin when both 210-barrel tanks were filled. A loading rack for trucks is being built.

Marine Oil Company is rigging up at Monzingo-Rivers Lumber Company 1, C NE SW NE 23-22n-1w, 660 feet west of the discovery with 10-acre spacing indicated.

T. L. James & Company's E. H. Miller 1, wildcat in 36-23n-2w, 4 miles south of Loram, appeared as a prospective Bodcaw sand discovery. Sand at 6314-31 feet reportedly had good odor and stain, with permeability from core analysis averaging 200 millidarcies per foot with saturation of 4 to 12.8 percent.

Ouachita Parish: Union Producing Company's wildcat in the southern sector of the Monroe gas field, Fee 1-152, C W½ SW SW 4-18n-4e, was completed flowing 1743 Mcf gas daily, on open flow, rock pressure 335 pounds. Perforations were made at 2160-2200 feet, and 5000 gallons of acid were used. Gas rock was topped at 2192 feet; total depth 4106 feet.

• South Louisiana

Calcasieu Parish Wildcat Shows Oil; Vinton Extended

Wildcat west of East Moss Lake field shows oil on drill-stem test; Vinton field production extended east; St. Helena Parish wildcat plugged and abandoned; Florence area wildcat making production tests.

Calcasieu Parish: Sun Oil Company's Louisiana Farm and Livestock 1, wildcat 2 miles west of East Moss Lake field, 7-11s-9w, on drill-stem test made through perforations at 8996-98 feet, using ¼ and ⅛-inch chokes, developed 3100 pounds pressure and recovered four stands of oil, seven stands of salt water and one stand and one joint of sand. Perforations were squeezed and another test was to be made at 8945-47 feet. Total depth is 10,152 feet with hole plugged back inside the 7-inch casing to 9138 feet.

Union Sulphur Company's Cleon Land and Development Company 1, outpost on the east side of Vinton field, has extended production. The well flowed 162 barrels of oil daily through 9/64-inch choke with tubing pressure of 1000 pounds, casing pressure of 250 pounds and gas-oil ratio of 521/1. Total depth is 6183 feet with 7-inch casing set on bottom and perforated at 6139-47 feet for completion.

St. Helena Parish: Magnolia Petroleum Company has plugged the Brinkhaus Unit 1, wildcat 2 miles west of Greensburg townsite and 35 miles northeast of Hallets Bayou production, East Baton Rouge Parish, total depth 10,042 feet. Tops by electric log are Cockfield 5790 feet, Cook Mountain 6022 feet, and Wilcox 6835 feet.

Vermilion Parish: Stanolind Oil & Gas Company's E. M. Watkins 1, wildcat, 6 miles east of Florence townsite, 23-13s-1w, is making production tests. Total depth is 12,191 feet plugged back to 11,970 feet and with 7-inch casing set to 10,900 feet with 5-inch liner set to 11,990 feet.

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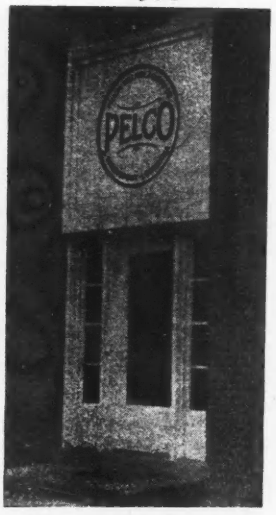

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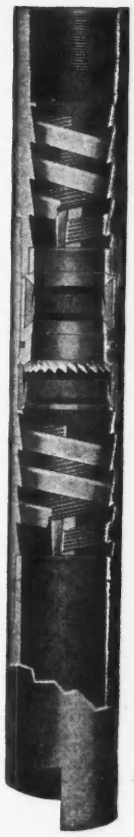

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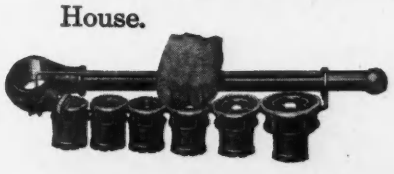

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• Upper Texas Coast

Deep Production Confirmed In the South Hutchins Area

Confirmation test in Glendale area testing gas; Sugar Valley north outpost completing; new producer finaled at Oyster Bayou; deep production confirmed in South Hutchins area.

Trinity County: Magnolia Petroleum Company's Bolton 3, confirmation test in the Glendale discovery area, from perforations at 10,647-657 feet flowed sweet gas for 11 hours on ¼-inch choke with 1500 pounds flowing pressure on the tubing and 1600 pounds casing pressure. On 7/32-inch choke the well flowed 7 hours with 1700 pounds tubing pressure, 1800 pounds casing pressure and was estimated good for 2000 Mcf gas daily on open flow. Total depth is 10,658 feet with 7-inch casing set on bottom. This well is a mile northwest of Bolton 2, gas condensate discovery from the Edwards lime.

Matagorda County: Fidelity Oil and Royalty Company's Walter Brown et al 1, north outpost on the east side of Sugar Valley field production, on initial gauge flowed 162 barrels of oil daily through ⅛-inch choke with 55,000 cubic feet of gas. Total depth is 9051 feet with 5½-inch casing set to 9048 feet and perforated at 8984-9002 feet for completion.

Chambers County: At Oyster Bayou field Sun Oil Company's Felix Jackson 21 on potential flowed 434½ barrels of 36.5-gravity oil daily through 13/64-inch choke with 1125 pounds tubing pressure and gas-oil ratio of 601/1. Total depth is 8377 feet with 5½-inch casing set on bottom and perforated at 8345-55 feet for completion.

Wharton County: Perry R. Bass et al (formerly Sid Richardson's leases) has completed Lacy W. Armour 4 as confirmation test to deep production in the South Hutchins area. On potential it flowed 245 barrels of 30-gravity oil daily through 10/64-inch choke with 1150 pounds tubing pressure and 2100 pounds casing pressure. Total depth is 6009 feet with casing perforated at 5887-89 feet in sands topped at 5870 feet.

• South Central Texas

Austin Chalk Production In Caldwell County Test

Wildcat south of Lockhart discovers good production in Austin Chalk; Tenney Creek area wildcat waiting on pumping test; new producer finaled at Wiegang.

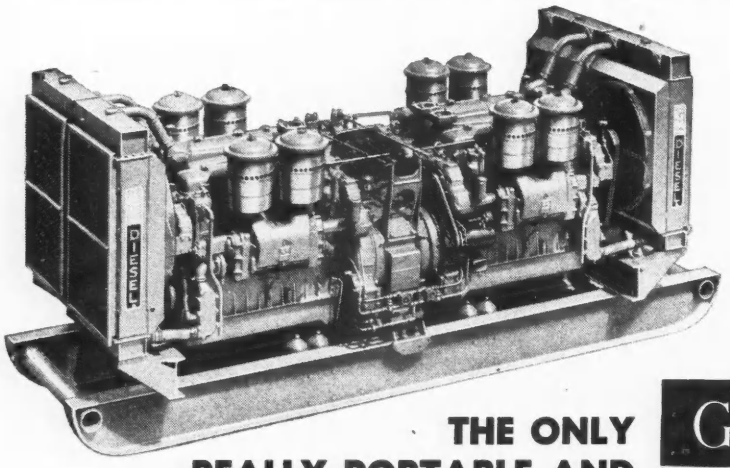
Caldwell County: W. Killam's Andrew J. Rodenberg 2, wildcat located 6 miles south of Lockhart and 2600 feet southwest of the southwest limits of Burdette Wells townsite, on potential flowed 1015½ barrels of oil and 110,000 cubic feet of gas daily through open 2-inch tubing with 110 pounds working pressure on the tubing. Production is from open hole at 2085-2173 feet in the Austin chalk, the well logging a crevice in the chalk at 2120 feet. Total depth is 2173 feet with 5½-inch casing set to 2085 feet.

Wiegand Brothers Drilling Company's Perry 1, wildcat in the Tenney Creek area, waited on a pumping test in the Austin chalk at 2468-2840 feet after acidizing with 1000 gallons. Casing was set to 2468 feet after cores in the Austin chalk had oil show. Hole was acidized from 2468-2530 feet with 1000 gallons and swabbed two barrels of oil daily. The hole was then drilled to 2971 feet in the Edwards lime and was plugged back to 2840 feet after the Edwards lime tested sulphur water. Location is 9 miles north of Luling in William House Survey 43.

Atascosa County: New producer at Wiegang field is H. R. Smith et al's Jessie Henderson 1, located 1500 feet northeast of Smith's H. A. Schumann 3 and 1200 feet northeast of his A. O. Schumann 7. On potential the well flowed 90 barrels of 24-gravity oil daily through ⅛-inch choke with tubing pressure of 310 pounds, casing pressure of 1110 pounds and gas-oil ratio of 250/1. Total depth is 3822 feet with 7-inch casing set on bottom and perforated at 3819-22 feet for completion.

Gas Repressuring Plea

Gas repressuring of the lower Tussy sand in the Tussy extension field of Carter County, Oklahoma, is sought in an application to the Oklahoma Corporation Commission by C. W. Barbour and associates. There are on the leases involved 13 producing wells averaging from 20 to 100 barrels of oil per day. Production from the lower Tussy sand, is not connected with the upper Tussy lime zone which produces in the Tussy field proper. Pay is had at from 2500 to 2900 feet.



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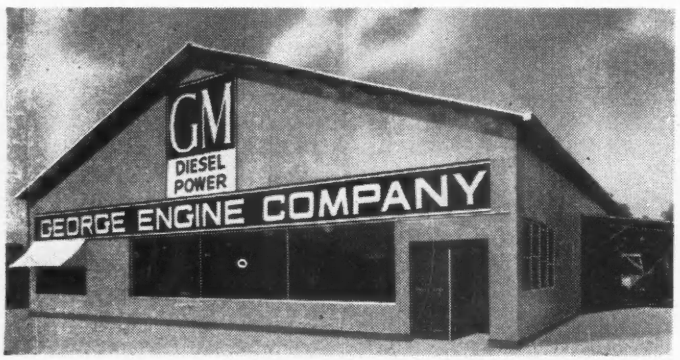

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• Middle Texas Coast

Wilcox Production Seen In Hallettsville Test

Southwest outpost at West Pridham Lake completed as oiler; Hallettsville area wildcat indicates Wilcox production; Green Lake area discovery waiting on potential.

Victoria County: Monday Oil Company's Kurts 1, southwest outpost at West Pridham Lake field, is being completed. From perforations at 3002-20 feet the well tested oil with a small amount of water, no gauge taken. Drilled to 5011 feet, it failed to show in the field's 4700-4800 foot main pay zone. This well is located ⅓ mile south of production.

Lavaca County: Forest Oil Company's Obelgoner 1, wildcat 2 miles north of Hallettsville, has indicated oil production in the Wilcox. A drill-stem test at 7924-32 feet, with 1500 foot water cushion and ¼-inch chokes top and bottom, developed 550 pounds working pressure in 25 minutes and recovered the cushion plus 280 feet of 39.9-gravity oil and 165 feet of oily mud. The well then drilled ahead below 8100 feet. Previously indicated was gas-condensate production on drill-stem test at 7510-20 feet.

Calhoun County: Ryan Consolidated Petroleum Corporation's Wagner 1, discovery in the Green Lake area, is waiting on potential. The well swabbed an estimated 56 barrels of 40.6-gravity oil daily, was shut in for a week waiting on pumping equipment, and when being opened flowed at the rate of 36 barrels of oil daily and may make a flowing oil well. Production is from perforations at 5980-6008 feet.

• Southwest Texas—Lower Coast

Two Nueces Discoveries Are Given Potentials

Oil discovery northwest of Bishop and Banquette area discovery given potentials; casing set in prospective oil field discovery in Duval County; Hidalgo County gas discovery tested.

Nueces County: H. R. Smith & W. C. McBride's Kaiser 1, new field discovery 2 miles northwest of Bishop, on potential test, gauged 176 barrels of 46-gravity oil daily on 7/64-inch choke with 1350 pounds tubing pressure, 1500 pounds casing pressure and gas-oil ratio of 960/1. Total depth is 7136 feet with 5½-inch casing set on bottom and perforated at 7133-35 feet for completion. Location is in the south end of Lot "D" of F. Z. Bishop's Palo Alto subdivision and 1½ miles northeast of the same operator's Whitten 1, a 1946 gas condensate discovery.

Curtis Singleton and W. H. Wallace's Mantor and Briggs 1, a dual-completed wildcat 4 miles northeast of Banquette and two miles northwest of Agua Dulce field is a discovery. On potential the well flowed 133 barrels of 40.8-gravity oil daily on 5/32-inch choke with tubing pressure of 1875 pounds and gas-oil ratio of 5180/1. Total depth is 6687 feet with 5½-inch casing set on bottom and tubing completion being made at 6016-21 feet. Casing completion is from perforations at 4950-61 feet. A drill-stem test of these perforations flowed in one hour gas and condensate with 1700 pounds working pressure, flow being through ¼-inch chokes top and bottom.

Duval County: Santa Clara Oil Company et al have set casing in the James F. Welder 1-C, prospective oil discovery 3 miles south of Strake field. A drill-stem test at 3273-77 feet, open 14 minutes, developed 32 pounds working pressure and recovered 2200 feet of oil. Total depth is 3277 feet with casing set on top of the sand at 3273 feet.

Hidalgo County: The Texas Company's Doss 1, gas discovery 5 miles northwest of Sam Fordyce and 5 miles north-northeast of Sullivan City, flowed 18,000 Mcf gas daily on open flow. On ⅛-inch choke it flowed 4175 Mcf gas daily, and on ¼-inch choke it flowed 7370 Mcf daily. Total depth is 8906 feet with 9⅝-inch casing set to 5218 feet and perforated at 3832-40 feet for completion.

Aransas County: The William Herbert Hunt Trust Estate's Spencer-Crane 1, wildcat on Live Oak peninsula 4½ miles north of Rockport, has indicated gas-condensate production. A drill-stem test at 7027-37 feet, using 550 foot water cushion and ¼-inch chokes top and bottom, developed 825 pounds working pressure in 23 minutes and recovered the cushion and 30 feet of condensate. A test at 7048-63 feet, using 1000 foot water cushion and ¼-inch chokes top and bottome, flowed in 14 minutes with 950 pounds working pressure and recovered 180 feet of condensate cut water cushion and 60 feet of mud. Total depth is 7063 feet.

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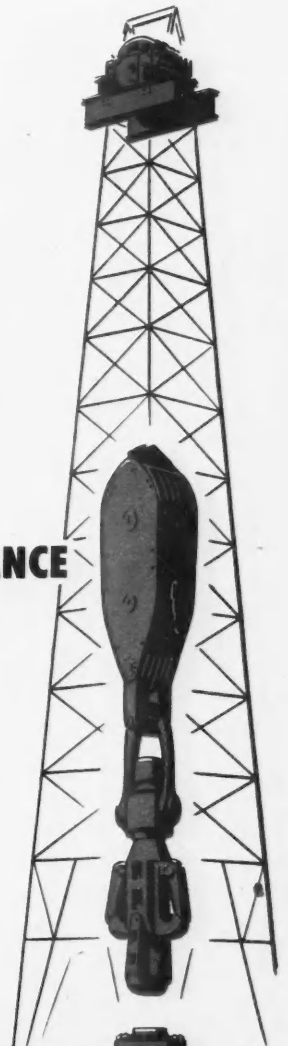

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• Illinois Basin

Richland County Reports Best Producer in Months

North Noble pool one of Illinois' best producers in several months; Indiana opening new pool southeast of Columbia.

Richland County: J. H. Gilliam's Provines 1, NW NE NW 34-3n-14w, a mile northeast of the Bonpas pool, swabbed 75 barrels of oil per day from McClosky lime at 3120-30 feet after 2000 gallons of acid.

Central Pipe Line Company's Harrell-Hunley 1, NW NE NW 35-4n-9e, ¼ mile south of the North Noble pool, yielded 1010 barrels of oil flowing, natural, in 24 hours from McClosky lime at 2925-35 feet.

Wabash County: R. B. Martin's Higgins 1, NW NW NW 36-2n-14w, two miles northwest of the Lancaster Central pool, flowed 245 barrels of oil in 19 hours from McClosky lime at 2890-2905 feet after 1500 gallons of acid.

Wayne County: Robinson and Pucketts' Perardi 1, SE NW SW 17-1s-8e, a mile east of the Geff pool, swabbed 118 barrels of oil in 24 hours from Aux Vases sand at 3115-30 feet after shot.

Clay County: National Associated Petroleum Company's Spiker 1, SE of C 12-3n-5e, 1¼ miles northwest of the North Kenner pool, swabbed 25 barrels of oil daily from Aux Vases sand at 2780-2805 feet after a 20-quart shot.

A. J. Slagter's Tackitt 1, SW SW SW 36-3n-5e, a mile southwest of the Kenner pool, swabbed 160 barrels of oil in 24 hours from Rosiclare at 2875-80 feet after 6000 gallons of acid. Operator is testing.

Hamilton County: F. J. Fleming's Mason 1, SE SE SE 10-4s-7e, a half mile from the Bungay pool, is ready to test Aux Vases sand at 3260-70 feet after a drill-stem test, during which the well gassed in 10 minutes and yielded 675 feet of oil in an hour.

Indiana

Pike County: Ralph Halbert's Ayershire-Collier 1, SE SW 30-2s-7w, 3 miles southeast of the Columbia pool, is opening a new area with McClosky lime production. On a drill-stem test the well made gas in 6 minutes and flowed oil in 14.

Gibson County: C. A. Lynch's Fleenor 1, NW SE SW 22-3s-12w, 2½ miles west of the Owensville pool, pumped 245 barrels of oil in 24 hours initially to open the Fleenor pool.

Kentucky

Henderson County: C. E. O'Neal's Fellows 1, 16-O-23, a mile south of the Cairo pool, initialed 250 barrels of oil in 24 hours on pump from Waltersburg sand at 1740-55 feet.

Products Line Removed

The Texas Pipe Line Company has awarded contract to Associated Contractors and Engineers, Houston firm, for the taking up of 135 miles of 8-inch line between Port Neches, Texas, and Logansport, Louisiana. The pipe will be reconditioned and used elsewhere.

• California

New Drilling Program for The Old McKittrick Field

New drilling program planned in 50-year-old McKittrick field; new wildcat play northwest of Premier field in Kern County; good completion in Ventura Avenue field; Cretaceous test in Fresno County considered important.

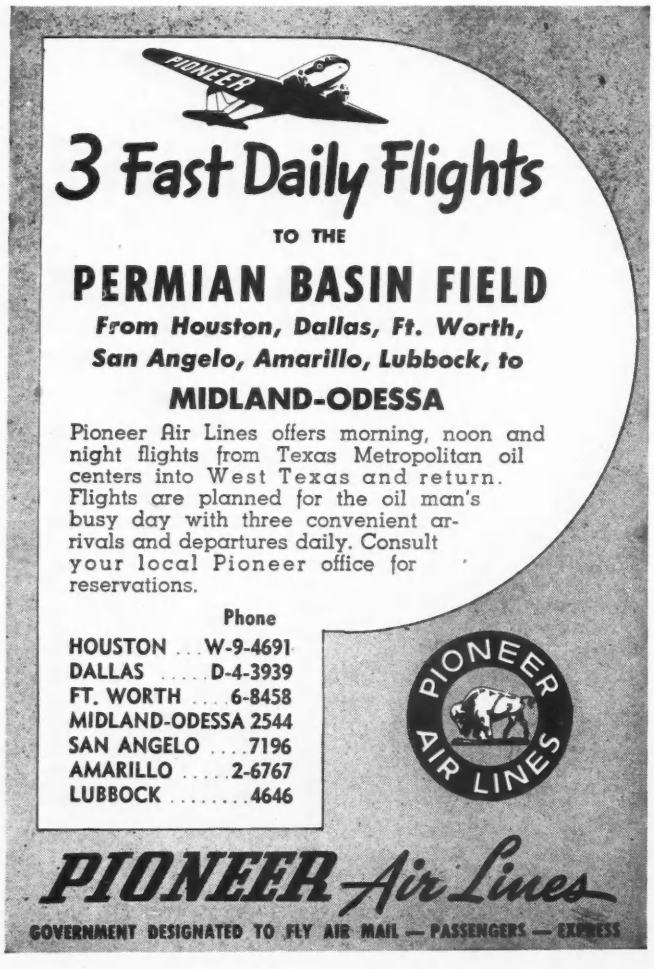
Kern County: Pacific Western Oil Corporation has under consideration a 25-well program in the McKittrick field discovered prior to 1900. The company will drill Midway-McKittrick A-84-30 about ½-mile from production on the south side of the McKittrick field in 30-30s-22e.

An important wildcat play is under way northwest of the Premier field where Independent Exploration Company has located Ruhn 1 in 15-27s-26e. Richfield Oil Corporation, Shell Oil Company and Holly Development Company have holdings in the area.

Independent Exploration's Anderson 1 wildcat, 29-29s-20e, will be abandoned around 2650 feet. Cores have shown the Carneros sand to be gray.

Independent Exploration has cored medium grained sand carrying heavy oil, 1475-95 feet in its Bowles 66 in 17-29s-21e. Rothschild-Bender Oil Operations also has had oil showings in Sheep Springs 8 in the same area.

Chanslor-Canfield Midway Oil Company has completed at 2624 feet Tejon 16-32 in the Tejon field, 32-11n-19w, flowing 170 barrels of 16 gravity oil, 14.7 cut. Production is reported to be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from the Upper Chanac which has not been cored heretofore in this area.

Santa Barbara County: Honolulu Oil Corporation's State 309-1, a tidelands test 2 miles east of the Elwood field in 19-4n-28w, which staged a blowout last week, has been conditioned and the hole is in shape for resumed drilling.

Positive results are lacking in tests of Sunray Oil Corporation's Los Flores 1 wildcat in 4-8n-33w. Perforated liner has been landed at 6000 feet and cemented through perforations at 5750 feet and an attempt is being made to bring the well on production from the chert.

Ventura County: Ventura Avenue field's best completion in recent months Lloyd Corporation's 20, was finished flowing 980 barrels of 33.8-gravity oil 2 percent cut through a 16/64-inch choke.

Los Angeles County: Union Oil Company's deep test on the north side of the Wilmington field near the intersection of Victoria Street and Wilmington Avenue probably will be abandoned. Effective depth is 11,312 feet.

Kings and Tulare counties: With increased pipe line capacity soon to be available, drilling activity in the Trico field is at a new high. Completed last week were one by Pacific Western Oil Corporation and a second by Trico Oil and Gas Company, each good for about 10,000 Mcf. Three new locations were announced.

Fresno County: Seaboard Oil Company's Lillis 85-36 in the Panoche Creek area, 36-15s-12e, a test for Cretaceous production, is spot coring at 2525 feet. A little oil but no commercial production has been found in sands of Cretaceous age in California.

Bids for the purchase of government royalty gas from Naval Petroleum Reserve No. 2, Kern County, California, will be opened in Los Angeles June 25.

• Rocky Mountain Area

Wildcat Tests Carefully Watched in Three States

Big Horn County, Wyoming, deepened well disappoints; Carter heads for 10,000 feet in Sweetwater County; Colorado-Wyoming line boundary line wildcat testing tertiary sands of Wasatch formation.

Wyoming

Deepening to the Madison of an old well in the South Byron area, Big Horn County, proved a disappointment and the well has been plugged back to 6896 feet for a Tensleep test. The well, Kirk Oil's Prescott 1, SE SE SE 9-55n-96w, was abandoned by Continental Oil Company in 1945 at 6875 feet, total depth, in the lower Tensleep. Tensleep core oil shows encouraged Kirk to deepen to 7218 feet, total depth, where water was logged in the Madison.

Sweetwater County: The Carter Oil Company's test on the north side of the Great Divide Basin at Government 1, C NE NE 13-26n-93w, is coring below 7857 feet in sands and shales probably of the Mesaverde formation. The well probably will go to 10,000 feet to test upper Cretaceous sands. On a 40,000-acre unit, the well is 7 miles southeast of an abandonment by General Petroleum Corporation on the Antelope structure. General Petroleum's well was drilled to 10,776 feet, total depth, in the base of the Sundance formation and tests in the Nugget, Lakota, Dakota and Frontier sands have shown water.

Mountain Fuel Supply Company is changing over to oil base mud on its No. 2 Unit, NE NE NE 22-17n-112w, at Church Buttes. At 12,692 feet, it will be carried deeper in the Dakota section. Seven-inch casing was cemented at 12,445 feet. No. 3 Unit, NE SW NE 12-16n-113w, six miles northeast of No. 2, should resume drilling soon. It is the deepest ever drilled in the Rocky Mountain Region — 12,960 feet — with 7-inch casing cemented at 12,944 feet. Both wells currently are in the Dakota formation. The discovery, a mile east of No. 2 Unit, completed for approximately 35,000 Mcf of gas with 300 barrels of 50-gravity condensate, has not been produced since completion, pending marketing arrangements. Mountain Fuel has a gas line within 10 miles of the field that goes into the Salt Lake City area.

Washakie County: The Pure Oil Company's sixth well on the Worland Unit has found water in the second sand of the Frontier horizon. In NE NE NW 16n-113w, six miles northeast of No. 2, Unit. Second Frontier on No. 6 was topped at 7507 feet and at 7581 feet, total depth, the well made 480 feet of water, 180 feet of oil and gas-cut mud in 1½ hours on drill-stem test. No. 5 Unit produced more than 100 barrels of high-gravity sweet oil from the second Frontier sand and is testing the third Frontier section.

Montana

The Tom Carney deep test at Bannatyne, Teton, County, at Speer 1, NW

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NW SE 5-25n-1e, is drilling below 2450 feet with Devonian topped at 2430 feet. The Jefferson is expected within the next 200 feet.

Colorado

Cities Service and Transcal companies are moving in material for a wildcat of the East Powder Wash area along the Colorado-Wyoming line, Moffat County, where tertiary sands of the Wasatch formation down to 5500 feet will be tested. Location is at Government 1, SE SE NW 27-12n-96w, 5 miles east of an extension completed by Sprecher Drilling Company and others on a farmout from Sinclair Wyoming Oil Company. Sprecher drilled to 5225 feet in the Wasatch and plugged back for a test of Wasatch sand between 4590-4625 feet. The well flowed as high as 120 barrels of oil per hour, with some water, and the operator is installing heaters and tankage to put the well on production test.

• Canada

Fourth Leduc Well Better Than Imperial's First Trio

Imperial Oil Limited placed its fourth well at Leduc on production with flush flow a barrel a minute through 2-inch tubing. The three previous completions flushed 40 to 50 barrels hourly. On second day of production, Imperial 4 was operated through ¼-inch choke, made 328 barrels of 41-gravity oil with gas-oil ratio slightly over 500 cubic feet per barrel, casing pressure 490 pounds, tubing 460 and separator 200.

No. 4 completes a diamond-shaped proven area containing in excess of 30 forty-acre drillsites, with structural and production data indicating that at least as many sites beyond the diamond can be regarded as semi-proven.

The company has four rigs in offset drilling, with a fifth starting, while other interests have started at six sites ranging up to three miles west, northeast and southeast of the area so far proven.

Imperial 4 completed at 5361 feet, after entering the "No. 2 zone" of the Devonian lime at 5335 feet. Seven-inch casing was set to 5352 feet, shutting off top 17 feet of the zone (which gave 3000 Mcf gas daily and 60 barrels hourly of oil on drill-stem test), and leaving open bottom 9 feet which was not drill-stem tested. Core indicated excellent porosity and saturation. Plug was drilled and the well placed on production without acidization.

The California-Standard Company has been granted a Crown Oil & Gas Reservation covering 398,840 acres in the Red Deer area, tying on to the south of Imperial and McColl-Frontenac's Leduc-Battle Lake-Wetaskiwin holdings, and to the west of Gulf's East Red Deer reserve, and has commenced seismograph study. The block extends from Townships 38 to 44, between Ranges 24w4th and 4w5th.

California-Standard also has extended its operations into the Province of Manitoba, with a geological and geophysical program on three large Crown Reservations in the southwest corner of that province. Standard has started a seismograph party to work in the vicinity of the City of Brandon.

EXPLORATORY FAILURES

ALABAMA WILDCAT

Monroe County: Clint Steinberger's Swift-Hunter Lbr. Co. 1, se ne 18-8n-7e, Chalk 1703, Eutaw 2925, Tuscaloosa 3236, Massive sd 4154, Comanchean 4540, abnd 5-30-47 at 4731.

ARKANSAS WILDCAT

Union County: Arrow Drlg. Co.'s Union Saw Mill A-2, c nw nw se 8-18s-12w, Travis Peak 2964, abnd 5-30-47 at 3502.

CALIFORNIA WILDCATS

Los Angeles County: O'Melia Oil Co.'s Pellissier 9, 17-2s-11w, Whittier Heights area, abnd 6-2-47 at 4350.

Orange County: Morton and Sons' Irvine 174-1, 10-6s-8w, El Toro area, abnd 5-28-47 at 4473.

COLORADO WILDCATS

Huerfano County: Rainbow Drlg.'s Cordova 1, c se sw 14-27s-65w, Chucheras area, abnd 6-1-47 at 700.

LaPlata County: Hudson-Coryell's Schmitt 1, c nw ne 36-34n-12w, Red Mesa, Dakota 3295, Morrison 3400, abnd 5-22-47 at 3459.

FLORIDA WILDCAT

Franklin County: Magnolia's Florida State Block 5-B 1, offshore test, jkd & abnd 6-4-47 at 697.

ILLINOIS WILDCATS

Clark County: J. Wilhoit's Hammond 1, sw ne 28-11n-13w, abnd 761.

Clay County: Skelly's Blair 1, sw se se 4-4n-6e, abnd 2983.

Edgar County: M. L. Livengood's Landes 2, sw sw 10-13n-13w, abnd 536.

Edwards County: S. D. Jarvis' Wade 1, nw ne se 11-1s-10e, abnd 2645.

George S. Engle's Whiteside 1, sw 8-1n-11w, abnd 2209.

Cherry & Kidd's Irish 1, nw sw se 11-1n-10e, abnd 3330.

H. B. Mortimer's Fishel 1, se nw se 34-2n-14w, abnd 2990.

Fayette County: R. S. Hayes' Reynolds 1, se se se 10-5n-4e, abnd 2582.

Marion County: H. Luttrell et al's Krug 3, sw sw ne 1-4n-3e, abnd 2405.

INDIANA WILDCATS

Gibson County: Dickerson & Lieberknecht's Briner 1, c nw se 31-1n-10w, abnd 2033.

Martin County: Hoosier Pipeline Corp.'s Craine 1, 5-3n-4w, abnd 360.

Pike County: Blaize Oil Co.'s Fee 2, ne nw nw 12-1s-9w, abnd 1450.

KANSAS WILDCATS

Barber County: Earl Wakefield's Rolf 1, nw nw sw 5-30s-11w, abnd 4839.

Barton County: Sohio et al's Horejesi 1, nw nw nw 26-16s-11w, abnd 3362.

Ellis County: Alkay Oil Co.'s Slimmer 1, c n½ nw se 2-11s-17w, abnd 3250.

Sohio et al's Erbebt 1, 20-12s-20w, abnd 3950.

Morris County: Brazil & Newton's Wiggins 1, 18-16s-6e, abnd 2511.

Rooks County: Bird & Boering's Talley 1, se se nw 18-8s-19w, abnd 3516.

Rush County: Brack Oil Co. et al's Hagerman 1, nwc 22-19s-16w, abnd 4065.

Sedgwick County: H. H. Brown et al's Brown 1, c n½ ne nw 12-29s-2e, abnd 2685.

KENTUCKY WILDCAT

Butler County: W. B. Phillips' Grise 2, 23-H-32, abnd 412.

NORTH LOUISIANA WILDCATS

Grant Parish: Texas Co.'s G. A. Foster 1, 1400 fr sl 2600 fr wl 21-7n-1w, abnd 6-2-47 at 1160.

Texas Co.'s I. J. Schwartzberg 1, sw 24-7n-1w, abnd 5-31-47 at 1115.

Madison Parish: Marr Prod.'s McElwee 1, 3500 fr sl 2013 fr wl 6-15n-10w, Gas Rock 4099, Austin 4113, Tokio 4372, Tuscaloosa 4942, Paluxy 5372, abnd 6-1-47 at 6020.

SOUTH LOUISIANA WILDCATS

Ascension Parish: Texas Co.'s United Lds. Co. 3, 660 n&e swc 1-10s-4e, 2 mi e Sorrento Dome prod, abnd 5-27-47 at 12,983.

Iberia Parish: Humble's J. M. Buguieres Co. 2-B, fr m/wly/cor sect 44 sely alg swl 374.1 th nely at ra 330 to lcn in 44-14s-7e, abnd 5-25-47 at 12,801.

St. Helena Parish: Magnolia's Hampton-Davis 1, 660 at ra ne fr wly/1, 1588.5 n fr swc 55-2s-5e, Cockfield 5790, Cook Mt. 6022-6111, Winona 6332, Wilcox 6835, abnd 6-2-47 at 10,042.

MICHIGAN WILDCATS

Allegan County: Wilma Lyon's Beilstein 1, n½ nw ne 22-3n-16w, abnd 6-5-47 at 2185.

Clare County: S. C. Hindeman's Ferguson 1, se se ne 36-17n-6w, abnd 6-2-47 at 1706.

Kent County: James J. McGerry's Pass 1, sw sw se 5-8n-5w, Traverse 2404, abnd 6-3-47 at 2422.

MISSISSIPPI WILDCATS

Forrest County: Superiors' Cassie Bradford 1, n&w sec sw nw 1-3n-13w, abnd 5-30-47 at 15,730.

Greene County: Humble's Carlos Henderson 1, nwc 32-5n-8w, abnd 6-1-47 at 10,229.

Lincoln County: Rogers Lacy's Harvey Smith 1, se ne 17-6n-7e, Wilcox 4084, Selma 8560, Tuscaloosa 9770, Massive sd 10,715, Comanchean 10,827, abnd 5-30-47 at 10,842.

Yazoo County: Southern Prod. Co.'s H. T. Carley 1, nw nw 28-10n-4w, Wilcox 2475, Eutaw 6054, Tuscaloosa 6847, Comanchean 7501, abnd 6-3-47 at 7653.

OHIO WILDCATS

Meigs County: H. B. Piersol et al's W. A. Will 1, se sw 6 Chester, Berea 1675, abnd 5-27-47 at 1755.

W. I. Gettman's G. W. Hobach 1, sw se 17 Lebanon, Oriskany 4149, abnd 5-20-47 at 4172.

Muskingum County: Wasson Co.'s W. T. Osborne 1, sw ne 7, Rich Hill, Medina 4425, abnd 5-28-47 at 4439.

National O&G Corp.'s M. J. Wickham 1, sw se 10, Salt Creek, St. Peter 6617, abnd 5-21-47 at 6910.

OKLAHOMA WILDCATS

Atoka County: Donald T. Ingling's Stuber 1, nw ne 15-3s-9e, abnd 3025.

A. G. Blauner's Blauner-Pierson 1, nw ne nw 19-3s-11e, abnd 420.

Cotton County: McMahan Oil Co. et al's Darter 1, nw nw nw 10-5s-12w, abnd 1903.

S. M. Anderson's Dyke 1, ne nw 15-3s-11w, abnd 1810.

Taylor Oil Co. et al's Turner 1, se se ne 14-3s-12w, abnd 1605.

L. H. Choate's Jameson 1, sw sw sw 1-4s-10w, abnd 1551.

Joe Moore et al's Lindsay 1, c ne nw 4s-11w, abnd 2042.

Frank Harvey's Williams 1, sw sw se 4-5s-12w, abnd 1805.

Garvin County: Magnolia's Parker 1, c se nw 18-2n-1w, abnd 7253.

C. W. Roodhouse et al's Blanton 1, ne ne sw 4-4n-2e, abnd 2090.

Hughes County: Mid-Continent's Allen 1, nw nw nw 14-7n-10e, abnd 3812.

Kingery & Patterson's Bilby 1, sw sw sw 4-6n-9e, abnd 2900.

Jackson County: P. P. Langford's Hickman 1, ne se 3-1n-19w, abnd 1932.

Lincoln County: Davon Oil Co.'s Frizzell 1, se nw sw 28-13n-2e, abnd 5183.

Charles Foster et al's Carter 1, se se nw 26-17n-5e, abnd 4026.

Roy L. Kemp's Black 1, se se nw 27-17n-6e, abnd 1760.

Love County: Samedan Oil Co.'s Brown 1, nw sw ne 18-6s-2e, abnd 2608.

Pontotoc County: Foron Nowles et al's Smith 1-A, se sw nw 29-4n-8e, abnd 520.

Tillman County: Texas Co.'s Bruster 1, se nw se 15-2s-15w, abnd 3436.

George W. Deck's Gibbs 1, nw nw ne 5-3s-18w, abnd 3250.

NEW MEXICO WILDCATS

Eddy County: M. W. Jones et al's State-Jones 1, se se sw 12-19s-27e, elev 3476, Red sand 1280-1320, abnd 6-1-47 at 3042.

Lea County: Texas Co.'s State 1-A-K, c se se 16-16s-38e, elev 3730, anhydrite 2095, Yates 3170, San Andres 4970, Glorietta 6320, abnd 6-8-47 at 6620.

Union County: Pure's Unit 2, ne sw ne 6-30n-37e, Black Mesa, abnd at 3564.

WEST CENTRAL TEXAS WILDCAT

Coke County: Union Oil Co.'s McCutchen 1, c sw nw H&TC Ry. 444, blk A-1, elev 1921, reef lime 5000, Ellenburger 6304, abnd 6-3-47 at 6746.

NORTH TEXAS WILDCATS

Archer County: J. A. Green et al's Reuben Parish 1, 1800 nsl 1600 wel sect 8, Hooper & Wade sur, abnd 5-13-47 at 1735.

Baylor County: Ward and McCullough Drlg. Co.'s Wall 1, 450 out nwc J. Barclay sur, abnd 5-27-47 at 1340.

Clay County: Magnolia's Fisher 1, 467 out sec blk 114, Wood CSL, elev 1094, Bend 5701, Ellenburger 6514, abnd 6-2-47 at 6665.

Jack County: Continental's Shawver 1, 4200 wel, 3150 nsl John W. Frazier sur, elev 1144, Smithwick 4448, Marble Falls 5475, abnd 6-3-47 at 5506.

TEXAS PANHANDLE WILDCATS

King County: Stanolind's Masterson 2, 1980 wel 660 nsl sect 1, E. L. Ribble sur, Canyon reef 4480, abnd 6-2-47 at 4600.

Ohio Oil Co.'s Burnett 1, 660 out sec James Gates sur, elev 1846, granite 6637½, abnd 6-7-47 at 6640.

EAST CENTRAL TEXAS WILDCATS

Fannin County: W. H. Taylor et al's Jones 1, 330 e 2100 s of nec of E. R. Newberry sur, but in sect 11, MEP&P Ry. sur, elev 612, abnd 6-2-47 at 3508 in granite-wash.

Robertson County: Carter-Jones Drlg. Co. et al's Lastor 1-A, 3550 fr nwl 5475 fr nel Wm. Thomas sur, elev 450, abnd 5-29-47 at 5135.

EAST CENTRAL TEXAS NEW PAY FAILURE AND GAS EXTENSION

Freestone County — Fairfield: Texas Co.'s White 1, 1700 nsl 1900 wel 204-ac tr and Wm. King sur, 5500 w of Travis Peak gas disc, elev 407, Pecan 2582, Austin 3450-3792, Woodbine 4196, Buda 4620, Georgetown 4787, Goodland 5434, Paluxy 5728, Glen Rose 5950, massive anhydrite 7030-7100, Rodessa 7152, Pettit 7724, Travis Peak 7888, Cotton Valley 9688, Buckner 11,943, Smackover 12,615, comp 6-2-47 at 14,331, pb 7440, Woodbine perf 4197-4200, flow 30 mln gas, open.

NORTHEAST TEXAS WILDCAT

Cherokee County: John R. Bunn's Allen 1, 330 out sec 200-ac tr, or 330 wel 2950 nsl Wm. Gates sur, elev 476, base Pecan 3702, Austin 4094-4277, Woodbine 4270, abnd 5-27-47 at 4562.

SOUTH CENTRAL TEXAS WILDCAT

Guadalupe County: Lupe Oil Co.'s L. Banks Est. 1, 485 fr nel 670 fr nwl 91.08-ac tr, Robt. Smith sur, Austin ch 1868, abnd 5-23-47 at 1922.

SOUTHWEST TEXAS-LOWER COAST WILDCATS

Duval County: Edwin B. Cox - Jake L. Hamon's Jas. R. Dougherty 1, 330 fr wl 990 fr nl BS&F sur 193, 320-ac lse, abnd 5-20-47 at 3300.

Government Wells Oil Co.'s R. Lopez Est 1, 330 fr n&wl Rufino Lopez sur 6, Dinn area, abnd 5-28-47 at 2552.

Jim Hogg County: Gulf-South Oil Corp.'s E. L. Armstrong 1, 330 fr nly/nl 1850 fr nly/el Sam Honey sur 296, (Gutierrez area), abnd 5-28-47 at 3264.

Starr County: Zimmerman & Conner's W. B. Osborn 1, 467 fr sl 1320 fr wl I. Gonzales sur 522, 200-ac lse, abnd 5-30-47 at 4605.

Webb County: Republic Nat. Gas Co.'s Rosa V. de Benavides 1, 330 fr se&swl lot 9, sect 6, Cole Pet. sbdn, Josefa Cuellar Gr, w of Cole gas prod, abnd 5-30-47 at 3515.

UPPER TEXAS COAST WILDCATS

Fayette County: Gulfshore Oil Co. et al's F. A. Kremel et ux 1, 330 fr sl 660 fr el 200-ac lse, S. Millet Lge, 1½ mi n Cistern fld, abnd 5-27-47 at 1948.

Orange County: Texana Pet. Co.-Kirby Pet. Co.'s Horace Peveto 1, 750 fr wl 330 fr sl 163-ac lse, Edward Hurst sur, se¼ sect 10, abnd 5-25-47 at 8012.

Wharton County: Jack W. Frazier-O. J. McCullough's Hawes Est. 1, 466 fr n&wl m/sly 120-ac of lse in 666.6-ac lse, J. J. Dillard sur, abnd 5-7-47 at 6503.

Magnolia's Linderholm 1-A, 660 fr sw&sel 640-ac lse, A. Edwards ⅛ Lge, 1¼ mi s of Chesterville fld, abnd 5-25-47 at 9863.

Proposes Gas Compact

Governor Roy J. Turner of Oklahoma has proposed a compact for the natural gas industry in Oklahoma, Texas and Kansas. A conference in Oklahoma City will consider use of natural gas to expand industries in the three states, and also make a possible agreement on some form of taxation so that none of the gas producing states will "suffer."

Turner said the conference probably will be held in connection with the next Interstate Oil Compact Commission executive board session.

Cost Accountants Elect Officers

Herschel S. Medlin, secretary and treasurer of the Moorlane Company, has been named president of the Tulsa Chapter, National Association of Cost Accountants for the fiscal year ending May 31, 1948. Other officers include: Joseph B. Galbraith, comptroller for the Stanolind Oil & Gas Company, vice president; Charles E. Sims, secretary-treasurer of the Peters Petroleum Corporation, secretary; Robert P. Bryarly, Orbit Valve Company; Carl J. Senger, Warren Petroleum Corporation; O. R. Buttram, National Bank of Tulsa; Edward Loughney, Gulf Oil Corporation; and Lane B. Wilson, Danciger Oil & Refining Company, directors. Eldon P. Priebe, internal auditor of the Skelly Oil Company, was elected to the directorate of the National Association.

Paul Randels has become oil field sales chief of the oil field division of Black, Sivalls & Bryson, Inc., with executive headquarters at Kansas City. He was previously stationed at Fort Worth.

Paul Randels

Budd Parks, who has been associated with Black, Sivalls & Bryson, Inc., in Oklahoma for more than 25 years, has been appointed to the newly created post of general comptroller. His headquarters will be in the company's executive offices in Kansas City, Mo.

»

J. Howard Samuell, for many years district geologist and petroleum engineer for the West Texas and New Mexico operations of Lane-Wells Company, has joined the First National Bank in Dallas as a petroleum engineer in the oil department.

»

R. L. Minckler has been elected executive vice president of General Petroleum Corporation, a newly created position. He joined the company in 1924, became assistant to the president in 1934 and a director in 1941. He was Director of Petroleum Supply in PAW during the war. On his return to his company in 1945 he was elected a vice president.

»

Bert Broday, North Texas division superintendent for Humble Oil & Refining Company and an employe for 30 years, has retired. He was one of the original employes of the company, and was placed in charge of the North Texas operations during the early 20's. North Texas oil men and officials of Humble honored Broday with a barbecue at Wichita Falls June 7.

»

M. R. McArthur has been made production manager for Husky Refining Company. He was formerly production superintendent for Phillips Petroleum Company's Rocky Mountain Division and was previously in oil production work in the Mid-Continent and Gulf Coast areas.

»

J. E. Gosline has been made assistant general manager of the producing department of Standard of California, with headquarters in San Francisco. He was formerly manager of the southern district, producing department, which latter post will be filled by **J. H. Thacher,** formerly manager of the gas division of the producing department, San Francisco. **R. E. Clarke** has been appointed to Thacher's old post.

W. C. Johnson, former superintendent of operations, has been appointed general superintendent of the southern district, producing department, with headquarters at Murphy-Coyote.

»

Robert B. Campbell, geologist, was elected vice president of the Southern Association of Science and Industry. He has served as president of the Peninsular Oil and Refining Company of Florida.

N. Y. Ruth has been promoted from head of the land department of The Carter Oil Company to the position of exploration manager and will assume some of the work formerly directed by **H. F. Moses,** vice president in charge of exploration and research departments. Moses will devote more time to executive duties. Ruth began work for Carter in 1927 in the geological department. He is a native of Geary, Okla., and a graduate of Oklahoma A. & M. College, Stillwater.

J. H. (Tarz) Marsh, division landman at Oklahoma City, will replace Ruth as head of the land department, with headquarters in Tulsa. Marsh joined the company in 1930. **R. L. Duncan,** office landman of Tulsa, will succeed Marsh at Oklahoma City.

»

Evan Thomas has been named general manager of the Cotton Valley Operators' Committee, North Louisiana, succeeding **T. W. McGuire,** who resigned to open petroleum consultant offices at Shreveport. Thomas was formerly with Foxboro Meter Company.

»

Maury M. Travis, Houston geologist, has moved his office from the Southern Standard Building to 604 West Building.

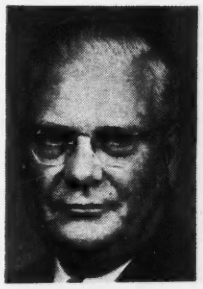
»

Henry W. Kayser has recently assumed new responsibilities at The Falk Corporation with his appointment as supervisor of development engineering, and will be available for field consultation. He has been associated with the corporation as designer, application engineer and development engineer since his graduation in 1931.

»

S. M. Vauclain, geologist at Sun Oil Company's Tallahasee, Fla., office, has been moved to Jackson, Miss., as assistant to **D. C. Harrell,** division geologist.

H. D. Foster has been named manager of Goodyear Tire & Rubber Company's Mechanical Goods Division. **Sam DuPree,** since 1945 sales manager of Good-



H. D. Foster

Sam DuPree

year's molded goods plant in St. Marys, Ohio, will be assistant manager of the division.

Foster has been associated with Goodyear 33 years, and has been Eastern sales manager of the Mechanical Goods Division since 1941. He was manager of the Cleveland district 24 years, and resides at Akron.

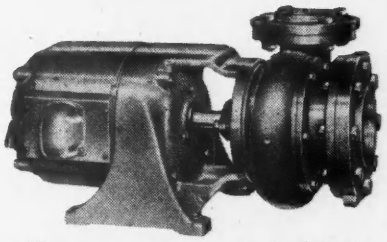
DuPree joined Goodyear in Akron in 1934 as a development engineer. He was made development manager at St. Marys in 1939. His promotion gives the Mechanical Goods Division two assistant managers. **H. V. Bressler,** associated with Goodyear 28 years, has been assistant manager since 1931.

»

Rex Townsend, former assistant chief of the Petroleum Division of the Department of State, has become a member of the firms of Hoover, Curtice & Ruby, Inc., and United Engineering Corporation, S. A.

CENTRIFUGAL PUMPS

FOR PROMPT DELIVERY



Your pumping requirements can be met promptly by the BERKELEY Centrifugal Pump in ranges from 40 to 1,250 GPM at heads of 15 to 380 feet.

The more popular sizes are in stock at Dallas for immediate delivery. Other sizes can be obtained in two to three weeks.

These pumps are stocked in both the motor mounted and belt drive models.

Special bronze pumps for handling salt water are available on slightly longer delivery.

Wire or write today for descriptive bulletin

SOUTHWEST EQUIPMENT CO.

919 S. ERVAY STREET **DALLAS** **CENTRAL 2281**

MEN IN THE INDUSTRY NEWS

T. C. Ervin, president and **L. C. Train,** secretary and treasurer of Lucey Boiler and Manufacturing Corporation, Chattanooga, Tenn., spent several days last week in Houston on business.

»

Harold L. Strader has been appointed head of Brown Oil Tools, Inc., and Brown Well Service's new sales organization offering on-the-spot engineering and sales service. He has been previously connected with Hughes Tool Company as sales engineer, and with The Texas Company as division petroleum engineer. His headquarters will be in Houston.

James H. Binger has been elected assistant vice president of the Minneapolis-Honeywell Regulator Company. He had been assistant secretary of the company since 1945, having joined Honeywell in 1943. Binger will devote most of his attention to the sales department and will assist **Thomas McDonald,** vice president in charge of sales.

»

Albert A. Sterling, Jr., has been appointed district engineer for J. A. Zurn Manufacturing Company, with headquarters in Houston. He was previously connected with Brance-Krachy Company, following three years in the Navy.

Robert A. Olen, general manager of The Four Wheel Drive Auto Company since 1944, was elected a member of the board of directors to succeed Charles Hagen, deceased. He has been connected with the company since 1924, starting in the machine shop, and having experience in the payroll department, as foreman of the derrick department, in the sales and advertising departments, as secretary to the president, and as assistant general manager.

R. A. Olen

Full of . . . "Git-up-and-go"

Of course a pumping unit never moves from its tracks. But with a Jensen, that's no sign it won't "git." As a matter of fact it will pump oil economically as long as there's oil to pump.

To "git" the most out of your production, either see your Jensen dealer or write us. Our literature is conservatively written and easy to understand.

JENSEN BROTHERS MANUFACTURING CO.
Coffeyville, Kansas, U.S.A.

EXPORT OFFICE: 50 CHURCH STREET, NEW YORK CITY

Deaths

R. J. Daniel, 67, assistant treasurer of The Texas Company at the time of his retirement in 1946 and an employee for 40 years, died June 4 at his home in Houston.

»

Rudolph Miller, 60, tax agent and assistant treasurer for Standard Oil Company of California, died May 31 of a heart attack in San Francisco. He worked in the San Joaquin oil fields and as a cost accountant before joining Standard in 1913, and was appointed assistant treasurer in 1943.

»

George E. Price, Jr., 57, purchasing agent for Goodyear Tire & Rubber Company, with whom he had been connected for 25 years, died May 30 in Akron after a brief illness. He was director of the purchasing activities of all Goodyear plants since 1936. A native of New London, Conn., he was employed by Davis Bournville Company for 9 years before coming to Goodyear.

»

Donald H. F. Macpherson, 59, former director of Gilmore Oil Company, later connected with asphalt and road oil department of General Petroleum Corporation, died at Riverside, Calif., June 8, of heart failure.

»

Rudolph Miller, 60, tax agent and assistant treasurer of Standard Oil Company of California, died May 31 in Piedmont, Calif., of heart failure. He had been with Standard since 1913, was appointed tax agent in 1934 and assistant treasurer in 1943.

»

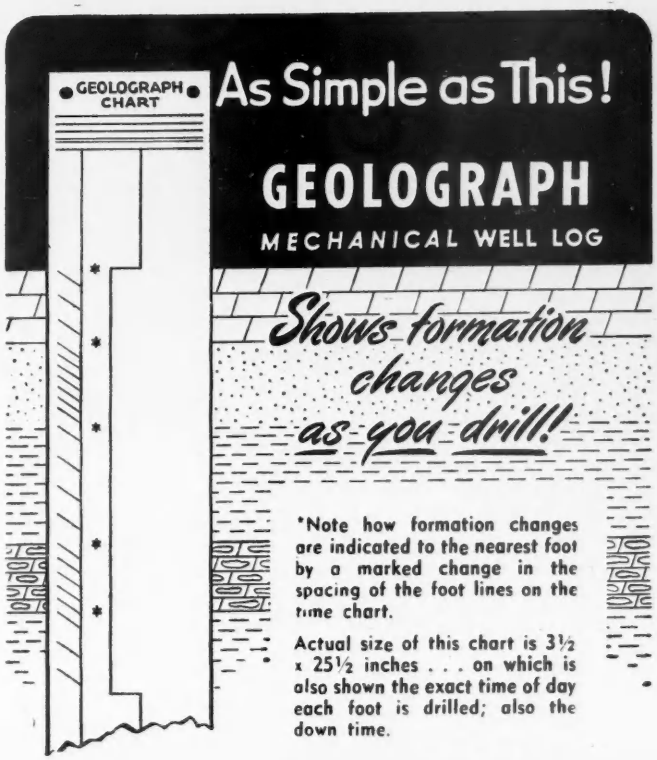
Henry Hobbs, 63, retired North Texas operator and former head of the Hobbs Oil Company, died June 6 at Wichita Falls after a long illness.

»

Alfred S. Marlow, Sr., founder and president of Marlow Pumps, died June 2 in Ridgewood, N. J.

»

Israel G. Stekoll, 69, former Bristow, Okla., pipe line and supply dealer, died in Tulsa June 6. At the time of his death he was associated with a brother in the Stekoll Supply Company.



As Simple as This!

GEOLOGRAPH

MECHANICAL WELL LOG

Shows formation changes as you drill!

*Note how formation changes are indicated to the nearest foot by a marked change in the spacing of the foot lines on the time chart.

Actual size of this chart is 3½ x 25½ inches . . . on which is also shown the exact time of day each foot is drilled; also the down time.

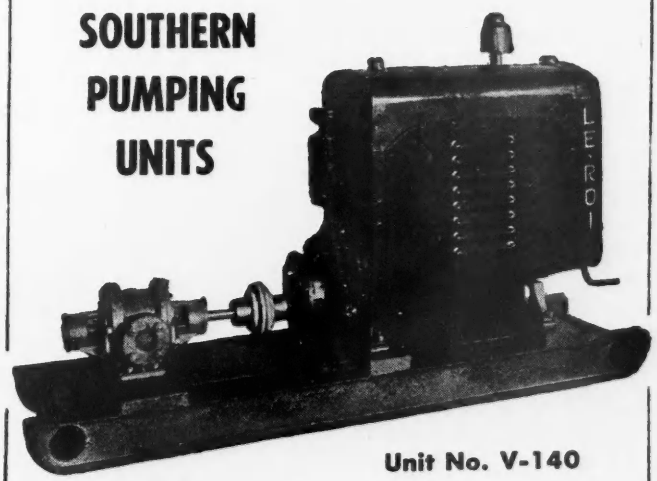
Reasonable rental rates . . . Write for details.

"TIME WILL TELL"

THE GEOLOGRAPH CO.

25 North Western — Oklahoma City 4, Oklahoma

SOUTHERN PUMPING UNITS



Unit No. V-140

Le Roi Power Unit — Viking Pump. Capacity 140 barrels per hour.

Complete units and replacements in Houston and Kilgore stocks.

SOUTHERN ENGINE & PUMP COMPANY

MANUFACTURERS • MACHINERY FACTORS • CONTRACTORS

Houston - Dallas - Kilgore - San Antonio - Edinburg

Producing single yarn from asbestos rove on ring spinning frames at the Garlock factory.

From A to Z

Here's another example of Garlock *quality control* from raw material to finished product. Asbestos cloth used in many Garlock products is manufactured in the Garlock textile mill. Included in these products is GARLOCK 150 High Pressure Steam packing which is made of asbestos cloth and rubber.

GARLOCK 150, illustrated below, gives superior performance on steam engines, pumps, compressors, expansion joints, etc., against steam pressures up to 300 pounds. For coil form, specify GARLOCK 125; and for rings GARLOCK 200. Sizes from ⅛ inch to 1½ inch, advancing by sixteenths.

THE GARLOCK PACKING COMPANY
PALMYRA, N. Y.

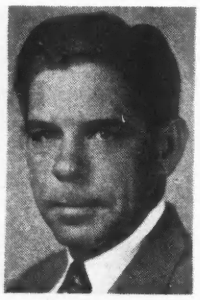
Tulsa, Okla. Houston, Tex.
Los Angeles, Calif.

60th Anniversary 1887—1947

GARLOCK 150

Otis Completes New Facilities In Louisiana

E. A. Kelley, division superintendent for Otis Pressure Control, Inc., is in charge of the newly completed office and warehouse plant in New Iberia, Louisiana, which is designed to broaden the company's range of service and supply to the southern part of the state and enable Otis engineers and field personnel to service or install sub-surface controls, and make tubing corrosion surveys, more rapidly than when the nearest warehouse and equipment depot was at Houston.



E. A. Kelley

Changes of Address

Sinclair Prairie Oil Marketing Company, the personnel of the claims, personnel and medical departments of the Sinclair Prairie Oil Company, and the pipe line department of Sinclair Refining Company have moved from the National Bank of Tulsa building to the McFarlin building. The Tulsa executive department of the Sinclair Refining pipe line division, and the stock materials and highway equipment departments, will be moved to Independence, Kans., where the pipe line division has offices in the Prairie Oil & Gas Company building. Headquarters of the Sinclair Products Pipe Line Company, now at Columbus, Ohio, will be moved to Independence also.

Great Lakes Carbon Corporation have moved their New York headquarters to 18 East 48th Street, New York 17.

The Chicago regional office of the Minneapolis-Honeywell Regulator Company and its industrial division, the Brown Instrument Company, has moved to a new location which will provide three times as much space as former quarters. The new office, at 351 East Ohio Street, occupies the entire top floor of the building and provides 30,000 square feet of floor space.

The Chicago regional office supervises activity and branch offices in various cities of Wisconsin, Illinois, Michigan, Indiana, Kentucky, Tennessee, Missouri, Arkansas, Kansas and Iowa.

Gatoura, Stramler and Gibson, consulting engineers of Houston, have moved their offices from 513 Scanlan Building to 403 Milam Building.

Parker Appliance Has New Pricing Policy

An entirely new pricing policy on its fittings was announced by The Parker Appliance Company. The change introduces quantity discounts on all of the company's industrial lines of flared and flareless fittings for joining tubing, and replaces a previous flat pricing practice.

The change will mean some reduction in price on many of the fittings, brass, steel, stainless steel, and aluminum, manufactured by the company.

International Harvester Branch Management Changes

International Harvester Company has announced some changes in branch management: E. D. Maher, formerly retail manager at Camden, N. J., and J. J. McLachlan, formerly retail manager at Elizabeth, have been appointed assistant managers at Philadelphia motor truck branch.

R. G. Greer, formerly manager of the Louisville general line branch, has been appointed assistant Eastern district manager, motor truck division. R. H. Curll, formely retail manager at Burlington, Vt., has been appointed assistant manager at Harrisburg, Pa., motor truck branch.

Russia Orders Equipment From Dresser Industries

J. B. O'Connor, executive vice president of Dresser Industries, Inc., has returned from eight weeks in Moscow with orders from the Russian government for eight deep-drilling rigs, 26 portable drilling rigs, 10 portable clean-out rigs, over 100 pumping units, a liquid methane plant, and miscellaneous equipment.

International Derrick & Equipment Company, a Dresser member company, will supply deep-drilling rigs, capable of drilling to 15,000 feet, with automatic controls, hydraulic control type of transmission and bits of the type designed for deep drilling in the Rockies. These will be used in the Kuibyshev District between the Urals and the Volga. IDECO will also supply rambler rigs, of 6000-foot capability; clean-out rigs, for 9000-foot operation; and pumping units for rehabilitation of the Maikop field.

O'Connor reported the Russian program of petroleum and gas rehabilitation and development as a stupendous undertaking, in which top technicians, many U. S. trained, were employed. In addition to noting modernization of refineries and cracking units, he inspected the natural gas pipe line, running between Moscow and Saratov, which will be served by the liquid methane plant to be designed and installed by the Stacey-Dresser Engineering Division of Stacey Brothers Gas Construction Company.

Mid-Continent Supply Changes

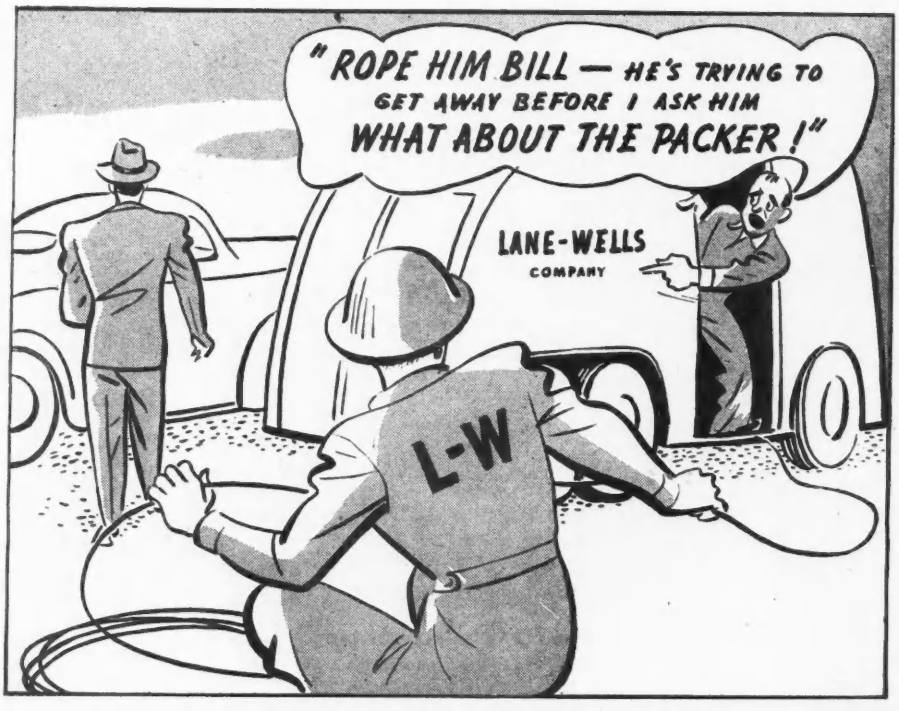
Several promotions, transfers and changes in top personnel were announced by Mid-Continent Supply Company. D. H. Thornbury, vice president, is being transferred from Houston, where he was manager of the Gulf Coast area, to the Fort Worth general offices as executive vice president directly under Ken W. Davis, president.

D. H. Thornbury

J. A. Daugherty

His post in Houston will be filled by J. A. Daugherty, vice president now in charge of the Tulsa and Northern division, who will be assisted by W. I. West, former west Texas-New Mexico division manager, as division manager of the Gulf Coast area. S. R. Clinkscales, former division tubular manager at Tulsa, will assume the job of managing the Tulsa-Northern division.

T. P. Tarwater, former district manager at Odessa, Texas, will be in charge of the West Texas-New Mexico area, with A. T. Skaer as new general district manager.



SQUEAKS from the BULL WHEEL

Rough Road Ahead

"Marian looks like a nice, sensible girl. I wonder if she'd marry me?"

"No, I think she's just as nice and sensible as she looks."

Standard English

Helen: Has your boy friend's English improved any?

Mary: No, he still ends every sentence with a proposition.

Very Little Choice

One Man: What kind of a girl do you prefer?

Another Man: Well, one ready maid.

Not in the Dictionary

The difference between gin and castor oil is that one is a talkie and one is a movie.

An optimist is a man who lights a match before asking for a cigarette.

She calls her boy friend "Stag" because he's a dear with no dough.

Self Protection

Three drunks came into a bar late one night, but one of them fell flat on his face inside the door. The other two stepped up to the bar and ordered Scotch and soda. "O.K.," said the bartender, "and what'll your friend down there have?"

"Oh, nothing for him!" they chorused. He's got to drive."

The Prosecution Rests

A middle-aged man and his wife were sideswiped by a car as they were crossing the street, but the driver of the car did not stop. A policeman came running up and they began to complain of the kind of careless driver that would hit and run, and how he ought to be put in jail for years.

The policeman agreed and asked if they had got the number of the automobile.

"Yes," said the husband. "Strangely, I noticed that the first two numbers formed my age, and the last numbers the age of my wife!"

"Dear," said his wife suddenly. "I think we'd better let the matter drop."

Worth $64

A teacher was defining the word "recuperate." "For instance," she said to one small boy, "your father works hard all day, and he's tired and worn out, isn't he?"

"Yes, ma'am."

"Then, when night comes and he's through work for the day, what does he do?"

"Gee," said the youngster, "that's what mother wants to know too."

Trial and Error

A footsore and indignant father sent his son's school teacher a note: "I am not in favor of homework for children any more. Because you wanted to know how long it would take a man to walk around the block 40 times I lost a whole day's work, and then after I had walked it you marked the answer wrong!"

Still of the Night

Mother: Rosalie, your escort brought you home very late last night.

Daughter: I didn't notice the time; but I'm sorry, did the noise disturb you?

Mother: No, the silence.

Another Matter

New Stenographer: Well, I finally got a raise in salary!

Friend: Honestly?

New Stenographer: Oh, don't be so inquisitive.

Poet's Nook

A lady whose name I'll be tellin'
Fell into some jell she was jellin'
Her cakes and her pies
Never won her a prize
But they gave the blue ribbon to Helen.

Inside Man

The drunk started ringing the operator of the hotel at 5 a.m. and demanded to know what time the bar opened.

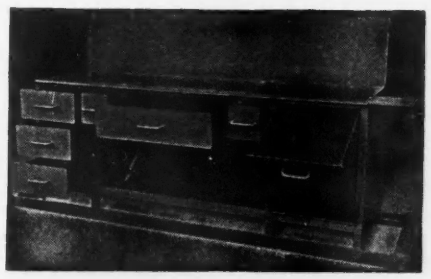
She told him with forced politeness that it did not open until 11 o'clock.

He called again at six and again at seven, getting more impatient each time. Finally she got the night clerk and asked him to tell the drunk off if he rang again. He did. "Good morning," said the clerk to the drunk. "And listen to me. We don't care to have your kind of business. And we don't care if you ever get into our bar room!"

"Shay, you," said the drunk, who was pretty mad too, "I'm already in your bar room. I'm trying to get out!"

OWEN

TYPE "A" WORK BENCH



PLENTY OF STORAGE ROOM

There's space in this all-steel, all welded bench for all the hand tools on any drilling rig. Six big drawers and a rag bin, with a total of over 14 cubic-feet of storage space, plus the tool pegs on the back apron, provide room for protecting all tools against loss or damage.

Buy one for each rig you own . . . and they'll pay for their cost in the savings they effect.

SOLD THROUGH ALL SUPPLY STORES

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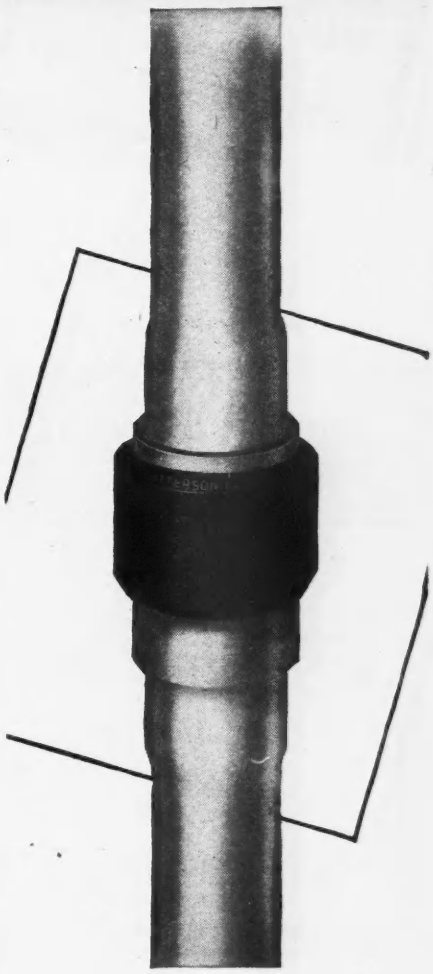

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Monsanto Technicians Given Leaves for Academic Work

Three of Monsanto Chemical Company's industrial scientists have been awarded leaves of absence at full salary for an academic year of study during 1947-48. They are Milton Kosmin, who has engaged in fundamental and process development research at the Central Research Department in Dayton since 1935; Costas H. Basdekis, research chemist in the Plastics Division at Springfield, Mass.; and Paul John Stuber, supervisor of the chlorine department at the Monsanto, Ill., plant.

The program was inaugurated last year and is designed to establish close cooperation between industry and university laboratories.

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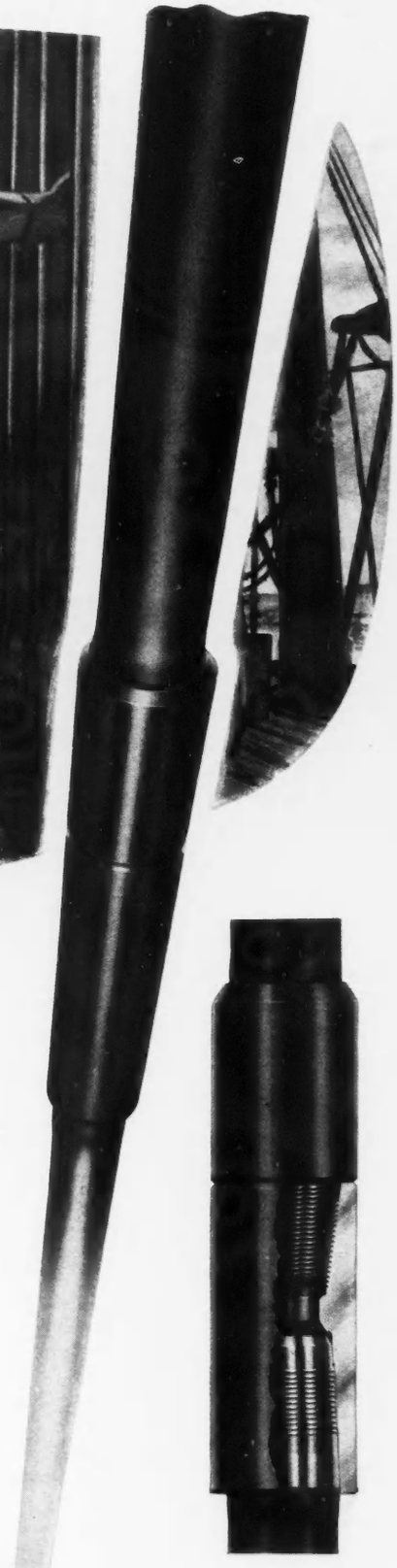

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EXPLORATORY FAILURES

ALABAMA WILDCAT

Monroe County: Clint Steinberger's Swift-Hunter Lbr. Co. 1, se ne 18-8n-7e, Chalk 1703, Eutaw 2925, Tuscaloosa 3236, Massive sd 4154, Comanchean 4540, abnd 5-30-47 at 4731.

ARKANSAS WILDCAT

Union County: Arrow Drlg. Co.'s Union Saw Mill A-2, c nw nw se 8-18s-12w, Travis Peak 2964, abnd 5-30-47 at 3502.

CALIFORNIA WILDCATS

Los Angeles County: O'Melia Oil Co.'s Pellissier 9, 17-2s-11w, Whittier Heights area, abnd 6-3-47 at 4350.

Orange County: Morton and Sons' Irvine 174-1, 10-6s-8w, El Toro area, abnd 5-28-47 at 4473.

COLORADO WILDCATS

Huerfano County: Rainbow Drlg.'s Cordova 1, c se sw 14-27s-65w, Chucheras area, abnd 6-1-47 at 700.

LaPlata County: Hudson-Coryell's Schmitt 1, c nw ne 36-34n-12w, Red Mesa, Dakota 3295, Morrison 3400, abnd 5-22-47 at 3459.

FLORIDA WILDCAT

Franklin County: Magnolia's Florida State Block 5-B 1, offshore test, jkd & abnd 6-4-47 at 697.

ILLINOIS WILDCATS

Clark County: J. Wilhoit's Hammond 1, sw ne 28-11n-13w, abnd 761.

Clay County: Skelly's Blair 1, sw se se 4-4n-6e, abnd 2983.

Edgar County: M. L. Livengood's Landes 2, sw sw 10-13n-13w, abnd 536.

Edwards County: S. D. Jarvis' Wade 1, nw ne se 11-1s-10e, abnd 2645.

George S. Engle's Whiteside 1, sw 8-1n-11w, abnd 2209.

Cherry & Kidd's Irish 1, nw sw se 11-1n-10e, abnd 3330.

H. B. Mortimer's Fishel 1, se nw se 34-2n-14w, abnd 2990.

Fayette County: R. S. Hayes' Reynolds 1, se se se 10-5n-4e, abnd 2582.

Marion County: H. Luttrell et al's Krug 3, sw sw ne 1-4n-3e, abnd 2405.

INDIANA WILDCATS

Gibson County: Dickerson & Lieberknecht's Briner 1, c nw se 31-1n-10w, abnd 2033.

Martin County: Hoosier Pipeline Corp.'s Craine 1, 5-3n-4w, abnd 360.

Pike County: Blaize Oil Co.'s Fee 2, ne nw nw 12-1s-9w, abnd 1450.

KANSAS WILDCATS

Barber County: Earl Wakefield's Rolf 1, nw nw sw 5-30s-11w, abnd 4839.

Barton County: Sohio et al's Horejesi 1, nw nw nw 26-16s-11w, abnd 3362.

Ellis County: Alkay Oil Co.'s Slimmer 1, c n½ nw se 2-11s-17w, abnd 3250.

Sohio et al's Erbebt 1, 20-12s-20w, abnd 3950.

Morris County: Brazil & Newton's Wiggins 1, 18-16s-6e, abnd 2511.

Rooks County: Bird & Boering's Talley 1, se se nw 18-8s-19w, abnd 3516.

Rush County: Brack Oil Co. et al's Hagerman 1, nwc 22-19s-16w, abnd 4065.

Sedgwick County: H. H. Brown et al's Brown 1, c n½ ne nw 12-29s-2e, abnd 2685.

KENTUCKY WILDCAT

Butler County: W. B. Phillips' Grise 2, 23-H-32, abnd 412.

NORTH LOUISIANA WILDCATS

Grant Parish: Texas Co.'s G. A. Foster 1, 1400 fr sl 2600 fr wl 21-7n-1w, abnd 6-2-47 at 1160.

Texas Co.'s I. J. Schwartzberg 1, sw 24-7n-1w, abnd 5-31-47 at 1115.

Madison Parish: Marr Prod.'s McElwee 1, 3500 fr sl 2013 fr wl 6-15n-10w, Gas Rock 4099, Austin 4113, Tokio 4372, Tuscaloosa 4942, Paluxy 5372, abnd 6-1-47 at 6020.

SOUTH LOUISIANA WILDCATS

Ascension Parish: Texas Co.'s United Lds. Co. 3, 660 n&e swc 1-10s-4e, 2 mi e Sorrento Dome prod, abnd 5-27-47 at 12,983.

Iberia Parish: Humble's J. M. Bugueres Co. 2-B, fr m/wly/cor sect 44 sely alg swl 374.1 th nely at ra 330 to lcn in 44-14s-7e, abnd 5-25-47 at 12,801.

St. Helena Parish: Magnolia's Hampton-Davis 1, 660 at ra ne fr wly/1, 1588.5 n fr swc 55-2s-5e, Cockfield 5790, Cook Mt. 6022-6111, Winona 6332, Wilcox 6835, abnd 6-2-47 at 10,042.

MICHIGAN WILDCATS

Allegan County: Wilma Lyon's Beilstein 1, n½ nw ne 22-3n-16w, abnd 6-5-47 at 2185.

Clare County: S. C. Hindeman's Ferguson 1, se se ne 36-17n-6w, abnd 6-2-47 at 1706.

Kent County: James J. McGerry's Pass 1, sw sw se 5-8n-5w, Traverse 2404, abnd 6-3-47 at 2422.

MISSISSIPPI WILDCATS

Forrest County: Superiors' Cassie Bradford 1, n&w sec sw nw 1-3n-13w, abnd 5-30-47 at 15,730.

Greene County: Humble's Carlos Henderson 1, nwc 32-5n-8w, abnd 6-1-47 at 10,229.

Lincoln County: Rogers Lacy's Harvey Smith 1, se ne 17-6n-7e, Wilcox 4084, Selma 8560, Tuscaloosa 9770, Massive sd 10,715, Comanchean 10,827, abnd 5-30-47 at 10,842.

Yazoo County: Southern Prod. Co.'s H. T. Carley 1, nw nw 28-10n-4w, Wilcox 2475, Eutaw 6054, Tuscaloosa 6847, Comanchean 7501, abnd 6-3-47 at 7653.

OHIO WILDCATS

Meigs County: H. B. Piersol et al's W. A. Will 1, se sw 6 Chester, Berea 1675, abnd 5-27-47 at 1755.

W. I. Gettman's G. W. Hobach 1, sw se 17 Lebanon, Oriskany 4149, abnd 5-20-47 at 4172.

Muskingum County: Wasson Co.'s W. T. Osborne 1, sw ne 7, Rich Hill, Medina 4425, abnd 5-28-47 at 4439.

National O&G Corp.'s M. J. Wickham 1, sw se 10, Salt Creek, St. Peter 6617, abnd 5-21-47 at 6910.

OKLAHOMA WILDCATS

Atoka County: Donald T. Ingling's Stuber 1, nw ne 15-3s-9e, abnd 3025.

A. G. Blauner's Blauner-Pierson 1, nw ne nw 19-3s-11e, abnd 420.

Cotton County: McMahan Oil Co. et al's Darter 1, nw nw nw 10-5s-12w, abnd 1903.

S. M. Anderson's Dyke 1, ne nw 15-3s-11w, abnd 1810.

Taylor Oil Co. et al's Turner 1, se se ne 14-3s-12w, abnd 1605.

L. H. Choate's Jameson 1, sw sw sw 1-4s-10w, abnd 1551.

Joe Moore et al's Lindsay 1, c ne nw 4s-11w, abnd 2042.

Frank Harvey's Williams 1, sw sw se 4-5s-12w, abnd 1805.

Garvin County: Magnolia's Parker 1, c se nw 18-2n-1w, abnd 7253.

C. W. Roodhouse et al's Blanton 1, ne ne sw 4-4n-2e, abnd 2090.

Hughes County: Mid-Continent's Allen 1, nw nw nw 14-7n-10e, abnd 3812.

Kingery & Patterson's Bilby 1, sw sw sw 4-6n-9e, abnd 2900.

Jackson County: P. P. Langford's Hickman 1, ne se 3-1n-19w, abnd 1932.

Lincoln County: Davon Oil Co.'s Frizzell 1, se nw sw 28-13n-2e, abnd 5183.

Charles Foster et al's Carter 1, se se nw 26-17n-5e, abnd 4026.

Roy L. Kemp's Black 1, se se nw 27-17n-6e, abnd 1760.

Love County: Samedan Oil Co.'s Brown 1, nw sw ne 18-6s-2e, abnd 2608.

Pontotoc County: Foron Nowles et al's Smith 1-A, se sw nw 29-4n-8e, abnd 520.

Tillman County: Texas Co.'s Bruster 1, se nw se 15-2s-15w, abnd 3436.

George W. Deck's Gibbs 1, nw nw ne 5-3s-18w, abnd 3250.

NEW MEXICO WILDCATS

Eddy County: M. W. Jones et al's State-Jones 1, se se sw 12-19s-27e, elev 3476, Red sand 1280-1320, abnd 6-1-47 at 3042.

Lea County: Texas Co.'s State 1-A-K, c se se 16-16s-38e, elev 3730, anhydrite 2095, Yates 3170, San Andres 4970, Glorietta 6320, abnd 6-8-47 at 6620.

Union County: Pure's Unit 2, ne sw ne 6-30n-37e, Black Mesa, abnd at 3564.

WEST CENTRAL TEXAS WILDCAT

Coke County: Union Oil Co.'s McCutchen 1, c sw nw H&TC Ry. 444, blk A-1, elev 1921, reef lime 5000, Ellenburger 6304, abnd 6-3-47 at 6746.

NORTH TEXAS WILDCATS

Archer County: J. A. Green et al's Reuben Parish 1, 1800 nsl 1600 wel sect 8, Hooper & Wade sur, abnd 5-13-47 at 1735.

Baylor County: Ward and McCullough Drlg. Co.'s Wall 1, 450 out nwc J. Barclay sur, abnd 5-27-47 at 1340.

Clay County: Magnolia's Fisher 1, 467 out sec blk 114, Wood CSL, elev 1094, Bend 5701, Ellenburger 6514, abnd 6-2-47 at 6665.

Jack County: Continental's Shawver 1, 4200 wel, 3150 nsl John W. Frazier sur, elev 1144, Smithwick 4448, Marble Falls 5475, abnd 6-3-47 at 5506.

TEXAS PANHANDLE WILDCATS

King County: Stanolind's Masterson 2, 1980 wel 660 nsl sect 1, E. L. Ribble sur, Canyon reef 4480, abnd 6-2-47 at 4600.

Ohio Oil Co.'s Burnett 1, 660 out sec James Gates sur, elev 1846, granite 6637½, abnd 6-7-47 at 6640.

EAST CENTRAL TEXAS WILDCATS

Fannin County: W. H. Taylor et al's Jones 1, 330 e 2100 s of nec of E. R. Newberry sur, but in sect 11, MEP&P Ry. sur, elev 612, abnd 6-2-47 at 3508 in granite-wash.

Robertson County: Carter-Jones Drlg. Co. et al's Lastor 1-A, 3550 fr nwl 5475 fr nel Wm. Thomas sur, elev 450, abnd 5-29-47 at 5135.

EAST CENTRAL TEXAS NEW PAY FAILURE AND GAS EXTENSION

Freestone County — Fairfield: Texas Co.'s White 1, 1700 nsl 1900 wel 204-ac tr and Wm. King sur, 5500 w of Travis Peak gas disc, elev 407, Pecan 2582, Austin 3450-3792, Woodbine 4196, Buda 4620, Georgetown 4787, Goodland 5434, Paluxy 5728, Glen Rose 5950, massive anhydrite 7030-7100, Rodessa 7152, Pettit 7724, Travis Peak 7888, Cotton Valley 9688, Buckner 11,943, Smackover 12,615, comp 6-2-47 at 14,331, pb 7440, Woodbine perf 4197-4200, flow 50 mln gas, open.

NORTHEAST TEXAS WILDCAT

Cherokee County: John R. Bunn's Allen 1, 330 out sec 200-ac tr, or 330 wel 2950 nsl Wm. Gates sur, elev 476, base Pecan 3702, Austin 4094-4277, Woodbine 4270, abnd 5-27-47 at 4562.

SOUTH CENTRAL TEXAS WILDCAT

Guadalupe County: Lupe Oil Co.'s L. Banks Est. 1, 485 fr nel 670 fr nwl 91.08-ac tr, Robt. Smith sur, Austin ch 1868, abnd 5-23-47 at 1922.

SOUTHWEST TEXAS-LOWER COAST WILDCATS

Duval County: Edwin B. Cox - Jake L. Hamon's Jas. R. Dougherty 1, 330 fr wl 990 fr nl BS&F sur 193, 320-ac lse, abnd 5-20-47 at 3300.

Government Wells Oil Co.'s R. Lopez Est 1, 330 fr n&wl Rufino Lopez sur 6, Dinn area, abnd 5-28-47 at 2552.

Jim Hogg County: Gulf-South Oil Corp.'s E. L. Armstrong 1, 330 fr nly/nl 1850 fr nly/el Sam Honey sur 296, (Gutierrez area), abnd 5-28-47 at 3264.

Starr County: Zimmerman & Conner's W. B. Osborn 1, 467 fr sl 1320 fr wl I. Gonzales sur 522, 200-ac lse, abnd 5-30-47 at 4605.

Webb County: Republic Nat. Gas Co.'s Rosa V. de Benavides 1, 330 fr se&swl lot 9, sect 6, Cole Pet. sbdn, Josefa Cuellar Gr, w of Cole gas prod, abnd 5-30-47 at 3515.

UPPER TEXAS COAST WILDCATS

Fayette County: Gulfshore Oil Co. et al's F. A. Kremel et ux 1, 330 fr sl 660 fr el 200-ac lse, S. Millet Lge, 1½ mi n Cistern fld, abnd 5-27-47 at 1948.

Orange County: Texana Pet. Co.-Kirby Pet. Co.'s Horace Peveto 1, 750 fr wl 330 fr sl 163-ac lse, Edward Hurst sur, se¼ sect 10, abnd 5-25-47 at 8012.

Wharton County: Jack W. Frazier-O. J. McCullough's Hawes Est. 1, 466 fr n&wl m/sly 120-ac of lse in 666.6-ac lse, J. J. Dillard sur, abnd 5-7-47 at 6503.

Magnolia's Linderholm 1-A, 660 fr sw&sel 640-ac lse, A. Edwards ⅓ Lge, 1¼ mi s of Chesterville fld, abnd 5-25-47 at 9863.

Proposes Gas Compact

Governor Roy J. Turner of Oklahoma has proposed a compact for the natural gas industry in Oklahoma, Texas and Kansas. A conference in Oklahoma City will consider use of natural gas to expand industries in the three states, and also make a possible agreement on some form of taxation so that none of the gas producing states will "suffer."

Turner said the conference probably will be held in connection with the next Interstate Oil Compact Commission executive board session.

Cost Accountants Elect Officers

Herschel S. Medlin, secretary and treasurer of the Moorlane Company, has been named president of the Tulsa Chapter, National Association of Cost Accountants for the fiscal year ending May 31, 1948. Other officers include: Joseph B. Galbraith, comptroller for the Stanolind Oil & Gas Company, vice president; Charles E. Sims, secretary-treasurer of the Peters Petroleum Corporation, secretary; Robert P. Bryarly, Orbit Valve Company; Carl J. Senger, Warren Petroleum Corporation; O. R. Buttram, National Bank of Tulsa; Edward Loughney, Gulf Oil Corporation; and Lane B. Wilson, Danciger Oil & Refining Company, directors. Eldon P. Priebe, internal auditor of the Skelly Oil Company, was elected to the directorate of the National Association.

Paul Randels has become oil field sales chief of the oil field division of Black, Sivalls & Bryson, Inc., with executive headquarters at Kansas City. He was previously stationed at Fort Worth.

Paul Randels

Budd Parks, who has been associated with Black, Sivalls & Bryson, Inc., in Oklahoma for more than 25 years, has been appointed to the newly created post of general comptroller. His headquarters will be in the company's executive offices in Kansas City, Mo.

»

J. Howard Samuell, for many years district geologist and petroleum engineer for the West Texas and New Mexico operations of Lane-Wells Company, has joined the First National Bank in Dallas as a petroleum engineer in the oil department.

»

R. L. Minckler has been elected executive vice president of General Petroleum Corporation, a newly created position. He joined the company in 1924, became assistant to the president in 1934 and a director in 1941. He was Director of Petroleum Supply in PAW during the war. On his return to his company in 1945 he was elected a vice president.

»

Bert Broday, North Texas division superintendent for Humble Oil & Refining Company and an employe for 30 years, has retired. He was one of the original employes of the company, and was placed in charge of the North Texas operations during the early 20's. North Texas oil men and officials of Humble honored Broday with a barbecue at Wichita Falls June 7.

»

M. R. McArthur has been made production manager for Husky Refining Company. He was formerly production superintendent for Phillips Petroleum Company's Rocky Mountain Division and was previously in oil production work in the Mid-Continent and Gulf Coast areas.

»

J. E. Gosline has been made assistant general manager of the producing department of Standard of California, with headquarters in San Francisco. He was formerly manager of the southern district, producing department, which latter post will be filled by **J. H. Thacher,** formerly manager of the gas division of the producing department, San Francisco. **R. E. Clarke** has been appointed to Thacher's old post.

W. C. Johnson, former superintendent of operations, has been appointed general superintendent of the southern district, producing department, with headquarters at Murphy-Coyote.

»

Robert B. Campbell, geologist, was elected vice president of the Southern Association of Science and Industry. He has served as president of the Peninsular Oil and Refining Company of Florida.

N. Y. Ruth has been promoted from head of the land department of The Carter Oil Company to the position of exploration manager and will assume some of the work formerly directed by **H. F. Moses,** vice president in charge of exploration and research departments. Moses will devote more time to executive duties. Ruth began work for Carter in 1927 in the geological department. He is a native of Geary, Okla., and a graduate of Oklahoma A. & M. College, Stillwater.

J. H. (Tarz) Marsh, division landman at Oklahoma City, will replace Ruth as head of the land department, with headquarters in Tulsa. Marsh joined the company in 1930. **R. L. Duncan,** office landman of Tulsa, will succeed Marsh at Oklahoma City.

»

Evan Thomas has been named general manager of the Cotton Valley Operators' Committee, North Louisiana, succeeding **T. W. McGuire,** who resigned to open petroleum consultant offices at Shreveport. Thomas was formerly with Foxboro Meter Company.

»

Maury M. Travis, Houston geologist, has moved his office from the Southern Standard Building to 604 West Building.

»

Henry W. Kayser has recently assumed new responsibilities at The Falk Corporation with his appointment as supervisor of development engineering, and will be available for field consultation. He has been associated with the corporation as designer, application engineer and development engineer since his graduation in 1931.

»

S. M. Vauclain, geologist at Sun Oil Company's Tallahasee, Fla., office, has been moved to Jackson, Miss., as assistant to **D. C. Harrell,** division geologist.

H. D. Foster has been named manager of Goodyear Tire & Rubber Company's Mechanical Goods Division. **Sam DuPree,** since 1945 sales manager of Goodyear's molded goods plant in St. Marys, Ohio, will be assistant manager of the division.

H. D. Foster

Sam DuPree

Foster has been associated with Goodyear 33 years, and has been Eastern sales manager of the Mechanical Goods Division since 1941. He was manager of the Cleveland district 24 years, and resides at Akron.

DuPree joined Goodyear in Akron in 1934 as a development engineer. He was made development manager at St. Marys in 1939. His promotion gives the Mechanical Goods Division two assistant managers. **H. V. Bressler,** associated with Goodyear 28 years, has been assistant manager since 1931.

»

Rex Townsend, former assistant chief of the Petroleum Division of the Department of State, has become a member of the firms of Hoover, Curtice & Ruby, Inc., and United Engineering Corporation, S. A.

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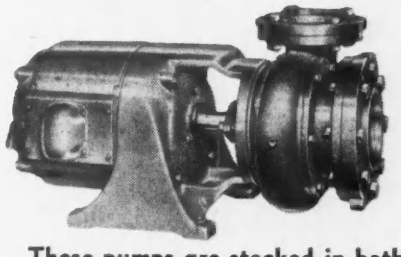

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MEN IN THE INDUSTRY NEWS

T. C. Ervin, president and **L. C. Train,** secretary and treasurer of Lucey Boiler and Manufacturing Corporation, Chattanooga, Tenn., spent several days last week in Houston on business.

»

Harold L. Strader has been appointed head of Brown Oil Tools, Inc., and Brown Well Service's new sales organization offering on-the-spot engineering and sales service. He has been previously connected with Hughes Tool Company as sales engineer, and with The Texas Company as division petroleum engineer. His headquarters will be in Houston.

James H. Binger has been elected assistant vice president of the Minneapolis-Honeywell Regulator Company. He had been assistant secretary of the company since 1945, having joined Honeywell in 1943. Binger will devote most of his attention to the sales department and will assist **Thomas McDonald,** vice president in charge of sales.

»

Albert A. Sterling, Jr., has been appointed district engineer for J. A. Zurn Manufacturing Company, with headquarters in Houston. He was previously connected with Brance-Krachy Company, following three years in the Navy.

Robert A. Olen, general manager of The Four Wheel Drive Auto Company since 1944, was elected a member of the board of directors to succeed Charles Hagen, deceased. He has been connected with the company since 1924, starting in the machine shop, and having experience in the payroll department, as foreman of the derrick department, in the sales and advertising departments, as secretary to the president, and as assistant general manager.

R. A. Olen

Deaths

R. J. Daniel, 67, assistant treasurer of The Texas Company at the time of his retirement in 1946 and an employee for 40 years, died June 4 at his home in Houston.

»

Rudolph Miller, 60, tax agent and assistant treasurer for Standard Oil Company of California, died May 31 of a heart attack in San Francisco. He worked in the San Joaquin oil fields and as a cost accountant before joining Standard in 1913, and was appointed assistant treasurer in 1943.

»

George E. Price, Jr., 57, purchasing agent for Goodyear Tire & Rubber Company, with whom he had been connected for 25 years, died May 30 in Akron after a brief illness. He was director of the purchasing activities of all Goodyear plants since 1936. A native of New London, Conn., he was employed by Davis Bournville Company for 9 years before coming to Goodyear.

»

Donald H. F. Macpherson, 59, former director of Gilmore Oil Company, later connected with asphalt and road oil department of General Petroleum Corporation, died at Riverside, Calif., June 8, of heart failure.

»

Rudolph Miller, 60, tax agent and assistant treasurer of Standard Oil Company of California, died May 31 in Piedmont, Calif., of heart failure. He had been with Standard since 1913, was appointed tax agent in 1934 and assistant treasurer in 1943.

»

Henry Hobbs, 63, retired North Texas operator and former head of the Hobbs Oil Company, died June 6 at Wichita Falls after a long illness.

»

Alfred S. Marlow, Sr., founder and president of Marlow Pumps, died June 2 in Ridgewood, N. J.

»

Israel G. Stekoll, 69, former Bristow, Okla., pipe line and supply dealer, died in Tulsa June 6. At the time of his death he was associated with a brother in the Stekoll Supply Company.

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